

# Nation's Business

A MAGAZINE FOR BUSINESSMEN

FEBRUARY 1954

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Do not remove



New uses spur aluminum's growth

page 26

GSA opens door to small business

page 46

**ADMIRAL CARNEY**

**WRITES:** Atomic victory depends on the Navy

page 38

# "AUTOMATIC CONTROLS CUT OUR COAL BILL 20%!"

**"We gave our modern coal-heating installation an additional boost in efficiency with automatic controls . . . saved \$600 the first season,"**

says R. C. Smith, Manager

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COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

## BITUMINOUS COAL INSTITUTE

A Department of National Coal Association  
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Partner

# Nation's Business

FEBRUARY 1954 VOL. 42 NO. 2

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## ABOUT THIS ISSUE

THE silo-like structures on this month's cover have an important place in the making of aluminum. Known as multicones, or collectors, they recover alumina—a substance derived from bauxite, aluminum's basic ore—from flue gases. Then the alumina is shipped to smelters where it is electrolytically reduced to pig aluminum. The multicones shown are part of the Reynolds Metals Company's aluminum plant at Hurricane Creek, Ark. The photo is by Charles Rofkin.

Details on the promising future of the aluminum industry will be found in the story, "New Uses Spur Aluminum's Growth," beginning on page 26.

TO HIS friends in and out of the Navy, **ADM. ROBERT B. CARNEY** is known as "Mick." It's a meaningful nickname, in view of his Irish ancestry and the keen Gaelic wit with which he has disarmed subordinates and superiors during his 41 year naval career.

The admiral's sense of humor is best exemplified by essays that he wrote for the crews of ships he commanded prior to World War II. One, entitled "Ace in the Hole," informed the men that poker was a great sport—as long as it was played away from his ship.

"Inability of Swabs to Reproduce" carried a somewhat different message to the forecastle. It urged the tars to temper shipboard discussions of the feminine gender, and the admiral claims it worked—well, a little.

As chief of staff to Adm. William F. Halsey, Jr., during World War II, Admiral Carney specialized in what he liked to call "the dirty tricks department" of the U. S. Third Fleet. The "dirty tricks" were surprise maneuvers that left units of the Japanese fleet in confusion.

In 1946 Admiral Carney was advanced from rear to vice admiral and, until early in 1950, served as Deputy Chief of Naval Operations (Logistics).

In March, 1950, he assumed command of the Second Fleet operating on the East Coast of the United States. On Oct. 2, 1950, he was promoted to the rank of admiral. He became commander in chief, U. S. Naval Forces, Eastern Atlantic and Mediterranean, Nov. 1, 1950.

In June, 1951, he was named commander in chief, Allied Forces, Southern Europe and, on May 13, 1953, President Eisenhower appointed him Chief of Naval Operations, the post he now holds.

On page 38, Admiral Carney describes our atomic fleet of the future.



Photo courtesy of Aviation Week

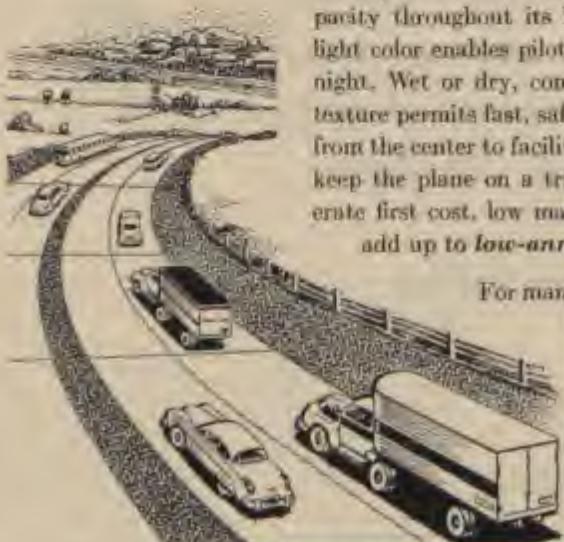
## Jet Planes...and Modern Highway Traffic Need CONCRETE

The most advanced experimental planes yet developed in America are shown above parked on a concrete apron at Edwards Air Force Base in California.

Only concrete withstands jet plane conditions. Other pavement is damaged by spilled hydrocarbon fuel, softened by the intense heat (up to 3000° F.) and blown away by the terrific force (1200 mph) of the blast coming out of the jet engine tailpipes.

In addition concrete can be designed *accurately* for any wheel load—and *keeps* its load-carrying capacity throughout its long service life. Concrete's light color enables pilots to see better, especially at night. Wet or dry, concrete's gritty, skid-resistant texture permits fast, safe stops. Its low crown (slope from the center to facilitate drainage) helps the pilot keep the plane on a truer course. Concrete's moderate first cost, low maintenance cost and long life add up to *low-annual-cost* service.

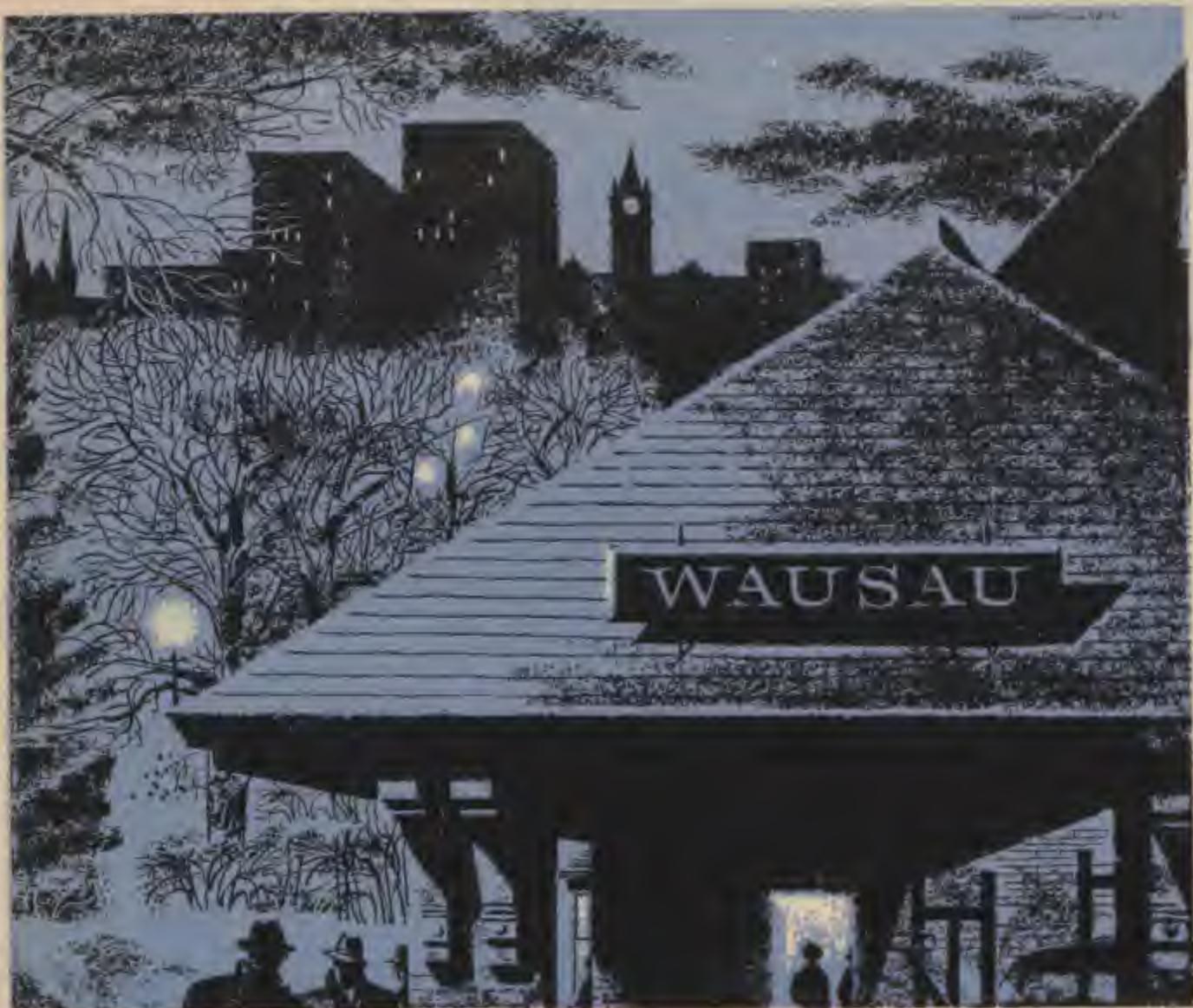
For many of these reasons concrete is best for modern highways. It can take today's loads. Its safety features help reduce accidents. Its *low annual cost* saves money for motorists and taxpayers.



### PORTLAND CEMENT ASSOCIATION

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A national organization to improve and extend the uses of portland cement and concrete...through scientific research and engineering field work.



## How come one of the world's most important insurance companies is located in Wausau, Wisconsin?

The fishing's good near Wausau. It's only a stone's throw to where the deer run. Once in a while, they say, a lynx comes down from the north.

And it's the home of one of the world's most important insurance companies.

### How come?

This was lumber country once. And lumbering was a hazardous business. 43 years ago a group of lumbermen joined together to pay the claims of injured sawmill workers under Wisconsin's new workmen's compensation law. The group came to be called The Employers Mutuals of Wausau.

Wausau is no longer lumber country. But Employers Mutuals has stayed. So have the men who guided the company from the very beginning.

### How come?

Because they knew that something good had grown up there. A certain way of doing business that was good. An almost *personal* character. A fairness that bent over backward rather than forward. Policyholders and their employees kept saying that Employers Mutuals were "good people to do business with."

There was a "Wausau personality" about us that people seemed to like and we didn't

want to lose. We're a large company today. We write all types of casualty and fire insurance, and are one of the very largest in workmen's compensation. We have two reputations, born and raised in Wausau, that we aim to hold. One is unexcelled service on claims. The other is an accident prevention program that means lower costs to policyholders.

We're still "Wausau." But today there are offices of Employers Mutuals of Wausau in 89 cities. "A little bit of Wausau on the sidewalks of New York." And we're still good people to do business with.

# Employers Mutuals of Wausau



"Good people to do  
business with."

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- Each month you will receive, as a member, a free copy of our report, "The Executive." In it you'll find a full description of the forthcoming month's selection (chosen from new books of the leading publishers) and a summary of many other current books on practical subjects. Thus, you have nearly a month to tell us whether or not you wish the selections.
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► HERE IS A favorable economic sign to tack on your wall:

Private money supply's at all-time high—more than \$200,000,000,000—and growing.

Of this more than \$38,000,000,000 is in E and H Savings Bonds—highest figure since government started selling them in 1935.

Cash savings rate for past three years has been at \$17,000,000,000 pace—highest in decade.

This fact is largely brushed-off in economic outlook reports.

► DO-IT-YOURSELF market booms.

But it's growing headache to one business—accident insurance.

Demand for everything in the "fixit" field from tools to wallpaper has created thousands of new firms.

It's also created 658,000 home accidents a year, according to one insurance company.

Do-it-yourself mishaps account for about 16 per cent of all home accidents.

Here's company's partial breakdown:

180,000 hurt making furniture; 81,000 hurt painting outside of home; 59,000 hurt putting up TV antennae; 47,000 on other roof work; 43,000 replacing broken windows; 17,000 pruning trees.

► CAR EXPENDITURES move ahead of house furnishings in typical family budget.

The figures: car expenses, \$466.95; house furnishings, \$427.14.

Those are average yearly figures, in family with income of \$3,500 a year in test area (Phoenix, Ariz.).

Other survey results:

Food's still budget king—family spends \$976.96 a year.

Savings or investment averages \$291.84; personal taxes, \$230.76; insurance, \$119.75.

Nearly half of food dollar (\$420.93) goes for meat, dairy products, bread and bakery goods, fish.

Note: Details are available at U. S. Department of Commerce, may help you in planning sales campaign.

► KEEP YOUR EYE on Treasury tax returns due middle of next month.

They'll be big factor in congressional debates on government spending—especially defense, foreign aid.

Here's how to test straws in the wind:

If receipts are up over fiscal '53, look for slightly loosened government purse strings.

If they're down, watch for double action: deeper slashes in appropriations, retention of present corporate taxes, broadening of excise tax base.

And don't forget: 80 per cent of personal income taxes are already in—remainder's due March 15.

Note: Corporations pay 45 per cent of taxes in March, another 45 in June, remaining 10 per cent in September and December.

Your newspaper usually publishes Treasury statement—or has access to it.

► "TARGET AREAS" can be important to your business.

They're areas considered high on list for potential enemy bombs.

They're also high on list for rapid tax write-off, if (and the "if" is important to you) you install bomb shelters.

Why?

Government wants industry to disperse, move out in the country, get away from large manufacturing centers.

At same time, officials realize that's not always possible. They want to encourage protective construction where industry has to stay in crowded area.

Of 190 facilities rated of greatest importance to security, about half are in target areas.

More than 71 per cent of industrial capacity, 54 per cent of manufacturing workers are located in just 50 large metropolitan centers.

► BABIES MAKE good customers, too.

That's view of well known baby products manufacturer.

He says each baby's worth \$100 a year in sales to local drugstore.

That's just for usual products, doesn't add in diaper services, toy, furniture and clothing stores,

builders, real estate operators.

How's baby business, over-all?

Total of 3,890,000 newcomers greeted 1954. That's 70,000 more than greeted '53.

The outlook: Another 4,000,000 by New Year, 1955.

► KNOW YOUR MARKET and boost sales. You've heard that theme before. It's growing in emphasis during first quarter this year.

And maybe you've been wondering how you can help yourself.

Here's one way: A statistical business library.

Sound complicated? It needn't be.

Library can point way to new markets, guide you on population, age groups, raw material prices, retail sales, wage rates, households in your area—even weather.

How can you organize a compact, low-cost statistical library?

The U. S. Chamber of Commerce has just published "What's the Answer?" a guide to source material you'll need. Cost: 50 cents.

Order it from Economic Research Department, U. S. Chamber, Washington 6, D. C.

► DON'T LET LACK OF experience keep you from sales job.

Why?

Three out of four firms hire men with no selling experience.

Result: Your chances are three to one of landing the job—without sales training.

Where do firms look for salesmen?

Survey of 140 manufacturers reveals most use several methods: More than half recruit them on college campus; 60 get them in other departments of their own organization; 45 advertise in newspapers, trade magazines; 31 screen unsolicited applications; 22 use employment agencies.

► AMERICAN PUBLIC pays its bills.

That's not news—but it reassures credit managers worried over "harder collections."

Survey of major department stores shows 76 per cent of charge account customers pay up on time.

About 20 per cent let bills slide for 90 days.

Nearly 4 per cent go longer—but pay in the end.

Fewer than 1 per cent turn out to be deadbeats.

Says one credit man: "We may have to tighten up on the 20 per cent—and more on the 4 per cent—but we're not worried."

► U. S. TREASURY has another headache: How to refinance one-year obligations held by public.

They fall due in '54, total \$88,130,-387,368 (latest figures).

That's up \$16,705,886,619 from same time last year.

It means Treasury must convert to long-term debt or pile up more cash deficit.

Bright spots:

In past year, long-term offerings have been oversubscribed. People, overall, are hanging on to savings bonds. These amount to nearly half of total.

► OFFICE OF DEFENSE MOBILIZATION abandons idea of building up capacity for full mobilization.

That fact's at root of order canceling rapid tax amortization in many areas.

Industries affected:

Military aircraft, warehouse and storage facilities, electric power, machine tools, metalworking equipment, ordnance facilities, presses and forging equipment, railroad terminal and road facilities, military vehicles and engines, medical supplies, pumping machinery, others.

ODM officials also admit privately that stand-by plant program's being brought to end.

In addition: None of \$250,000,000 fund for machine tool reserve has been allocated.

ODM says, on record: "Need for further expansion in certain areas is under active consideration."

Meanwhile, however: No more fast tax write-offs in those areas.

► ADD THESE FIGURES to current U. S. highway needs:

We spent, from all sources, total of

# washington letter

\$73 per vehicle for all highway systems in 1940. Today, expenditure's slumped to about \$40 per vehicle.

► DON'T BE SURPRISED if Commodity Credit Corporation goes on block.

Idea's being explored now. It's similar to that behind liquidation of RFC.

Means that private commercial storage firms, farm organizations would take over program, dispose of surpluses.

U. S. would still guarantee price levels, support bank risks.

Note: Plan may be tied in with price floor legislation—which is scheduled to die at end of this year.

► PAY CUT can raise worker's take-home pay.

How does it work?

Say you have a single man making \$3,600 a year.

If he takes optional standard deduction, he pays Uncle Sam \$607, leaving net of \$2,993.

If his salary's cut a penny—to \$3,599.99—he falls into next lowest tax bracket. Tax drops to \$596.

Result: Net take-home pay jumps to \$3,003.99, gain of about \$11.

Note: Figuring applies to anyone making less than \$5,000 a year who uses optional deductions.

Look at your own payroll, compare it with tax tables. You may find workers near bottom of tax range paying as much as man making up to \$50 more.

► CONSUMERS GET new tax break. How?

It's Tax Court ruling: You can deduct carrying charges on instalment purchases from your income tax.

What's it mean to taxpayer?

Spending income of many will be boosted from \$25 to \$100 a year.

Add this to other tax cuts and retailers see a \$250,000,000-plus upsurge in consumer buying power for '54.

Note: Decision stems from case going back three years in courts, may mean rebates will swell total buying power.

► HIGH U. S. OFFICIALS ponder a toughie.

It's this:

Is mail just what it means—or is it property?

There's no quick answer, private sources indicate.

Problem's tied to present subsidy payments to airlines for carrying U. S. mail.

Defense Department says mail to or from overseas is personal property, doesn't come under domestic U. S. mail.

If so, there's no subsidy for transporting it.

If not, Defense must include subsidy in its budget.

Tangle involves Post Office Department, Civil Aeronautics Board, too.

All are budget-conscious in '54.

What's your answer?

► NEW BUSINESS incorporations in '53 reveal 10 per cent increase over '52 (102,000 vs. 92,000).

Proportion of failures to new businesses started: '53, 8.6 per cent; '52, 8.2 per cent.

That's little fuel for recession fire.

► BRIEFS: Panama Canal rings up record \$7,200,963 net income on gross of \$107,457,716 in its second year of existence as incorporated federal agency; tolls jumped 23 per cent. . . . Commerce Department field men are warned to be on lookout for phony inventory, sales figures—there are reports of doctoring by firms seeking U. S. loans. . . . Word has gone out privately for new federal personnel chiefs to clear appointments above GS-9 with local G.O.P. leaders. . . . Du Pont spends \$25,000 a year to maintain one research technician, another \$31,000 for laboratory facilities. . . . Survey shows states, areas, communities plan advertising expenditures of about \$3,000,000 this year to attract new industry. . . . New steel capacity index may show lower percentages for next few months, but industry spokesmen point out as much or more steel actually will be made. It was same last year—as much steel was made at 88 per cent of capacity as we made at 100 per cent in 1950. . . . Chemicals, allied products account for 7 per cent of all manufactured goods in U. S.; industry's among top five in sales, is pointing to record \$20,000,000,000 this year.

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# Letters TO THE EDITOR

## For students and voters

JANUARY 1954 ISSUE ESPECIALLY INTERESTING AND IMPORTANT STOP FULL PICTURE OF GOVERNMENT DURING 1953 VERY WELL DONE STOP WISH FIFTY MILLION STUDENTS AND VOTERS WOULD TAKE TIME TO READ ALL OF IT STOP

FRANK T. PRIEST  
DULANEY JOHNSTON PRIEST  
Wichita, Kan.

## For directors

Will you please mail a copy of this unusually fine issue to each of the 55 individuals named on the attached sheet.

The first 34 names on the list are the directors of the National Retail Farm Equipment Association and the remainder are secretaries of our outstanding affiliated associations.

PAUL M. MULLIKEN  
Executive Director, National  
Farm Equipment Association  
St. Louis

## A public service

In making these reports available to the American people, you and your excellent magazine are rendering a great public service for which I heartily commend you.

PHIL M. LANDRUM  
Member of Congress

## Interesting report

This is certainly a very interesting report of President Eisenhower's Cabinet.

JOHN SPARKMAN  
U. S. Senate

## A reference work

I want to congratulate you on a splendid issue. I believe that many will keep it as a handy reference work, as I plan to do.

JOHN MARSHALL BUTLER  
U. S. Senate

## Accomplishments and objectives

The series of articles by the Cabinet members is a superb analysis of the accomplishments and objectives of these departments. This issue of your magazine comprehensively analyzes the problems and the proposed solutions of a vast area of our government.

JOHN R. PILLION  
Member of Congress

## Outstanding

The January issue of NATION'S BUSINESS is before me. I find it most outstanding and informative.

ALVIN R. BUSH  
Member of Congress

## Explanation and analysis

You are to be congratulated upon combining with the broad explanations

of the operations of the departments by the men responsible for their functioning, objective analyses by authoritative critics. This issue will become a reference work for those interested in learning of the policies and purposes of the members of the President's Cabinet.

RICHARD W. HOFFMAN  
Member of Congress

## So the world will know

Thank you for granting the U. S. Information Agency copyright clearance on the articles "Free World Gains Strength" by Allan Nevins, and "Labor Is Not A Class Apart" by Secretary of Labor James P. Mitchell.

These articles will be distributed for republication by magazines and newspapers in the British Empire, continental Europe, the American Republics, the Near East, Far East, Africa and the French-language press in Canada.

DUNCAN SCOTT  
Chief, Features Section  
International Press Service

## The Constitution makes citizens

"The State of the Nation" by Felix Morley in your January issue is a masterpiece to my way of thinking. Very few American citizens are informed on the subject of our Constitution. Every junior high student, every high school student, and their parents as well should read this article. Every public school superintendent in the United States should be required to read it.

If the old system of including classes in American History in the public school curriculum could be resumed and the "core system" which does not include such classes could be eliminated, we might be able to educate our young people as they should be educated to produce loyal, well informed citizens. "Progressive education" is partly responsible for inferior citizenship and juvenile delinquency.

Let us endeavor to make patriotism and pride in our Constitution fashionable and popular in 1954.

MRS. FLORENCE D. WATKINS  
Cockeysville, Md.

## Conservative prophets

I have just read "Fifty Years of Powered Flight." Because of my experience in, and association with, flying activities since 1917, I am still amazed at the cautious predictions of aeronautical people. The planes I flew then had a top speed of 120 mph and an endurance of four to five hours. At that time they thought that 200 or possibly 250 mph might be achieved. When single-engined military aircraft

flew that fast they said it would prove too expensive for commercial use. When additional engines were advocated "for the sake of safety," that too was pronounced uneconomical. In 1947 when I went on the first Pan American world flight we circled the globe in a four-engined, 300 mph Connie within 13 days—with considerable time on the ground for entertainment in numerous far-flung places.

During World War II when 450 mph became possible it seemed to be the maximum until the sudden and dramatic birth of jet aircraft.

I would not be the one to say that new fuels, new designs, as yet unborn, might not bring unexpected accomplishments within the next 50 years. But, again to quote Wilbur Wright, "We see enough already to be certain that it will be magnificent."

CLAYTON KNIGHT  
West Redding, Conn.

#### Grammar and population

In your December issue the question is asked—"What does unemployment in this country of 1,250,000 mean?"

It seems there is a more important question to be asked after reading that sentence—where are the other 128,000,000 people we used to have? Did they secede to Maine and Vermont again?

GEO. H. HOLM  
Akron, Ohio

Grammarians Holm has a point. Our sentence should have read: "What does unemployment of 1,250,000 in this country mean?" His sentence should have read "160,000,000."

#### Better use of transportation

Your article, "You Can End the Traffic Jam," ends with the dogmatic statement, "There is no other way."

That is a challenge to the reader to show that there is another way.

And there is another way!

The traffic problem is brought to my attention every day as I crawl to work in our car pool over the supersaturated super Shirley Highway from Annandale into Washington.

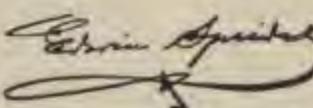
Study the traffic coming into any of our cities during rush hours. Observe the large proportion of cars carrying one or two passengers. Those riders are occupying five to ten times as much traffic and parking space as a person in a full car or in a public transportation vehicle.

Let's apply ourselves to methods of making better use of roads, bridges, and parking places that we now have. Let's provide special places for parking car-pool cars. Let's develop methods of pooling traffic out in the suburbs. Express, low-fare buses from centralized parking in the suburbs might work in some places. Planning engineers should be able to develop many practical methods if their bosses would tell them, "See what you can do to make better use of what we now have."

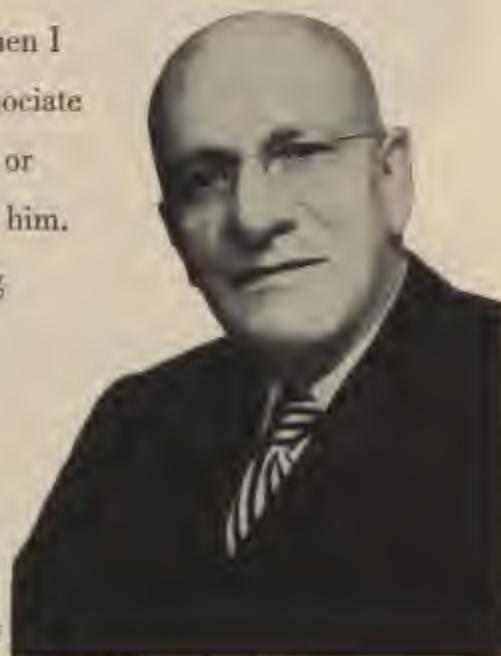
CARLETON K. LEWIS  
Annandale, Va.

# "Good Taste is Good Business..."

There are many times when I want to let a business associate know I remember a date or an occasion important to him. A big bouquet or a living plant says just exactly what I want to say... in perfect taste."



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R. D. Duffus  
BY MY WAY



### Home, sweet home, but—

IN THE winter we move for a few months to the city, and that is where we are now, if things have gone as planned—"now" meaning date of publication. After that we travel around a little (don't I ever do anything but take vacations? Yes, I do; with my wife's help I plan for them and then spend some time resting up after them); and so our little house in the country sits uninhabited (except by squirrels, and do they make trouble!) for quite a while. We feel quite sad when, for a while, we lock the doors for the last time. It is as though a house and yard could have feelings, and we were hurting them. However, these reflections do not keep us at home.

### Top drawer stuff

LIKE many another man, I sometimes make notes during conferences and telephone conversations and sometimes I doodle. Now I have been cleaning out the top left-hand drawer of my desk, where I keep all my top secret documents (in case anybody is interested) and I came on a sheet I can't understand. Who is Mr. Sklivfgrug (if I have his name right)



and is his secretary Miss Throsby or was I merely meaning to remind myself to call him on Thursday? Or what? I think the last answer is probably the correct one, but it throws no light on a mathematical exhibit in which I seem to have divided 80,000 something (not dollars, I am pretty sure, and probably not doughnuts) by nine and come up with 3,500 as the answer. If it were anybody else I would suggest it

ought to be looked into, but personally I couldn't bear it and prefer to drop the whole subject.

### Some good in all of us

I HAVE never believed the human race is entirely bad, and I am sure it isn't when I see it standing in front of a pet shop, obstructing traffic and forgetting what it ought to be at work on. A race that is fascinated by guppies and goldfish, puppies and kittens, as the human race is, has a lot of good in it. I suppose guppies and goldfish, puppies and kittens have some good in them, too, for I have noticed that they all seem slightly fascinated by the human race.

### Motoring problems

ANOTHER of the things I wonder about is why it is so easy to slide out of the front seat of a car on the right-hand, or passenger's, side, and so hard to slide back in again the same way. And what does a left-handed man do with his right hand when he wants to prove he can drive one-handed? He can't stick it out the window and clutch the top of the car. Maybe he sits on it. Finally, why do I take extra pains when I come up behind a car driven by a man with his hat pulled far down over his right ear? It usually pays to do this, I find.

### And now it's quaint

THE first "big city" noise I ever heard was the clop-clopping of horses' hoofs on cobblestones, and when I first heard it, at an extremely young age, I felt sophisticated and metropolitan. Who wouldn't in a town such as Barre, Vt., with a population of at least 7,000? I heard it again not long ago as my wife and I spent a night in a New York hotel facing Central Park. This time, however, it wasn't "big city" at all; it was a few surviving hack drivers appealing to romantics to ride behind a real horse, with horsehide on its bony framework; in short, it was

quaint. Some day the tumult of today's traffic may seem quaint, too; if it does I hope to be there.

## E pluribus unum

ONE way to realize what a big country this is to think of the different meanings of winter. In New England it used to be said that a green Christmas (or a green February, if you like) means a full churchyard. In Miami this is not true. In the ski country snow is welcomed because it means money. In such cities as Boston, New York, Philadelphia, Washington, Chicago and (for variety's sake) Cheyenne it is not welcomed, because it costs money. In the Santa Clara Valley in California the prune and apricot blossoms perfume the air and delight the eye while maple sugar is still being processed in Vermont—and, if you insist, Ohio, Michigan and upstate New York. Winter is lying on the beach and winter is gliding over the ice or snow, all within the confines of these United States. But I do believe, in spite of all our sectional and climatic differences we have one bond that links north and south, east and west. I refer to the common cold.

## The starling's travels

A READER tells me I was wrong in saying that starlings do not sing. I am glad they do sing, because there are so many of them and they seem to be spreading. The National Geographic Society says they reached Central Park, New York City, in 1890-91, with the aid of Shakespeare



lovers who wished to have all the Bard's birds represented here. They have now got as far as the Fiji Islands, though I do not know why; perhaps because there they can eat bananas and papaws and have a good time. I guess we will have to modify the old Navy slogan to read, "Be a starling and see the world."

## 76,000 movies

I SEE where more than 76,000 motion pictures have been registered for copyright in this country since 1894. At the rate of one a day it would take an average man about 208 years to see all those movies. I guess that is why I now and then hear of one I never saw.

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OF NATION'S BUSINESS

# Trends



## THE STATE OF THE NATION

BY FELIX MORLEY

THE SECOND session of any Congress is always a headache for a first-term President. The opposition, girding for the off-year elections, is extra critical. For the same reason the discipline of the party in power is relaxed. All of its members who are up for re-election must fight their own battles in the constituencies. They must individually decide whether the over-all party program, as voiced by the Chief Executive, is a help or a hindrance. And parts of it are sure to be dangerously unpopular in every marginal district.

In the current session of the Eighty-third Congress these habitual difficulties are, for President Eisenhower, unusually pronounced. This is primarily because of the virtually equal balance of party strength in Congress. The shift of a few seats this coming November would give both House and Senate to the Democrats. Therefore the factions in that party are united by the savory prospect of regaining power, with all its perquisites. Republican factionalism, on the other hand, is emphasized by the varying reactions to the "dynamic policies" outlined by the Presidential messages last month.

\* \* \*

At the beginning of the session, when he presents his program with all the publicity of radio and video as well as newspaper coverage, the President has a great advantage. He stands out in the public eye as the personification of the collective national interest. No member of the opposition, still less critics within his own party, could hope to steal the

show and therefore no wise politician even tries to do so. But, after about a month of this pre-eminence, the balance subtly changes. Sectional and group interests tend to become predominant. The shadow rather than the sunny side of White House projects is emphasized. Congress no longer decorously applauds the President of the United States. On the contrary, it proceeds to butcher his program, both on the floor and in committees. Attractive joints, with unmistakable vote appeal, may stay on the legislative counter. It is forgotten that bone and sinew, as well as palatable meat, are necessary for a well articulated program.

That stage of the session, where we stand today, calls for unusual qualities of executive leadership. The President must be *patient*, because if he loses his temper he will merely play into the hands of the opposition. He must be *adroit*, in the sense of making secondary concessions in order to gain a primary objective. He must be *assiduous*, for even momentary oversight may cost an advantage that will not be regained. And, above all, the President, during the months prior to the off-year election, must be *effective*. If he loses control of the Congress, the last half of his term, as Herbert Hoover reminds us in his "Memoirs," is likely to be one long and bitter frustration.

Despite his slim congressional majority, President Eisenhower is in a stronger political position today than was his last Republican predecessor at the comparable period in 1930. The economic horizon may not be altogether bright but there are no

such clouds as those which were everywhere apparent 24 years ago. There is, without question, more uncertainty on the international scene than there was then, but this is to the President's advantage. Any risk of war tends to unite the people behind those in political power, whereas any prospect of serious unemployment has the directly opposite effect. That is why war always operates to the advantage of dictatorship, and depression to the disadvantage of democracy.

Yet President Eisenhower's position in relation to Congress scarcely can be called enviable. Throughout our history the Presidents who never served in Congress have been subject to its sharpest criticism and there is no reason to think that Ike will be an exception to that rule. Before and at the Chicago convention of 1952 he was not the candidate of the Republican senators and representatives, two thirds of whom favored Senator Taft. When the latter lost the nomination he loyally threw all of his great strength behind Mr. Eisenhower, helped to elect him and then brought all the Republicans in Congress together behind the President. Nobody knows better than Ike how much Mr. Taft's cooperation meant to him during the first session of the present Congress.

Now Senator Taft is gone and the full political implications of that national loss are for the first time becoming fully apparent. G.O.P. factionalism on the Hill is stronger, and the Presidential relations with Congress are less intimate than was the case last spring and early summer. Something of this, as noted, is inherent in the fact that we are in an election year. But the difficulties have all been intensified by Senator Taft's death.

\* \* \*

The fact that the Congress can be controlled by the party in opposition to the President has often been criticized as a serious weakness of our governmental system. Even the possibility of this outcome gives rise to serious problems for the executive, as President Eisenhower now has cause to realize. And if it were not for the political wisdom of the American people as a whole the difficulties arising from the possible antagonism between President and Congress could be overwhelming.

It is the two-party system which makes it possible for the White House and the Hill to be at loggerheads. But by keeping these parties relatively fluid, so that legislators cross party lines on almost every important vote in Congress, this defect in operation can be rendered innocuous. The two-party system has obvious mechanical advantages. Normally it gives power as well as responsibility to the party in office and is therefore much more satisfactory than the multi-party system, where the man with executive responsibility seldom has the parlia-

mentary support necessary to make his program prevail. For a case study of the damage that a system of multiple parties can cause we have only to look at France.

Under certain circumstances, however, the two-party system can exhibit the same fundamental defect. This occurs whenever the executive cannot command a secure majority of the legislature, the weakness being especially pronounced if the legislature is actually under opposition control. In Great Britain the latter situation cannot arise, because a Prime Minister defeated in a vote of confidence must then resign. But under our Constitution it is wholly possible to have the President and Congress frustrate each other. That unpleasant possibility is today no mere hypothetical danger.

Party unity and discipline are important. Indeed there is no sense in having political parties unless the membership and leadership habitually act as a unit in the struggle to attain definable objectives. But the welfare of the nation as a whole is always superior to the political success of any party. It follows that on occasion, and the present is a good illustration, the bonds of party loyalty should be relaxed. Before casting his vote the really patriotic congressman will ask himself whether his country, rather than his party, will be the beneficiary. That attitude is of course the very opposite of an obstructive factionalism.

\* \* \*

Fortunately the number of legislators who put principle above party, in both Senate and House, is considerable. The number of Democrats who will on occasion give the President support is certainly as great as the number of Republicans who will on occasion oppose him. This does not mean that the two-party system is failing. On the contrary it means that, with us, it possesses the necessary flexibility to survive conditions of maximum strain.

A corollary of the two-party system may be expressed as follows: When the opposition party is strong, it should also be tolerant; when it is weak, its criticism should be most vigorous. At first glance this rule of good government seems illogical and therefore is often ignored. But it is inherent in our system of balanced powers. An executive with overwhelming political power should be restrained by Congress, while an executive without a secure majority should not be rendered powerless. F.D.R. suffered from inadequate opposition, as Hoover before him suffered from too much. In both cases, nobody gained from this lack of balance.

Like all who reach his eminent position, the present Speaker of the House has a deep understanding of our political system. He predicts that, despite symptoms to the contrary, Mr. Eisenhower will now obtain a record of legislative accomplishment better than any recent President. Joe Martin's wish could be father to this thought. But he spoke as a student of politics, not as a politician, in voicing it.



## WASHINGTON MOOD

BY EDWARD T. FOLLIARD

**T**HE UNITED STATES is moving into a new phase—the “long haul” epoch of powerful and expensive armed forces.

These forces are being reduced in size and cost, true. In the opinion of some Democrats in Congress, they are being reduced too sharply and too soon. Even so they will be vastly greater than the country has ever maintained for long without a shooting war.

President Eisenhower has two important aims. One is the maintenance of these forces within the nation's ability to pay, and over an indefinite period—five, ten, 20, 50 years, or however long it may be necessary. The other aim, allied to the first, is continuance of the good life for Americans.

What is new about the arms program, at least against the background of our history, is its enduring character. It will mean a different kind of United States than we have ever known in peace. It will also mean that the abnormal will become the normal.

Says Secretary of Defense Charles E. Wilson:

“The cost of maintaining an adequate defense will probably be high for many years. . . . It will be essential that the people learn to accept military service as a normal duty.”

There is reason to believe that Americans not only are reconciled to such a program, but are heartily in favor of it. To such an extent have the Soviet leaders (certainly against their own interests) changed a country whose traditions are all against large armed forces in peacetime, a country that has never been adequately prepared for the wars in which it has engaged, and which has repeatedly reduced its strength once the cannon have ceased to boom.

In this connection, a noteworthy thing has happened with respect to Korea. For the first time in our history, cessation of fighting did not evoke the familiar cry of “Bring the boys back home.” Indeed, there has been some Democratic criticism of the President's decision to withdraw two divisions from Korea.

The Eisenhower long-haul program—which calls ultimately for a military establishment a little under 3,000,000 men—has been charted at a time when Washington, London and Paris are convinced

that the danger of open military aggression by Russia is much less than it was a year ago. Three reasons are cited for this—the growth of allied might, particularly in the 14 nation North Atlantic Treaty forces; the revolt in East Germany, with its hint of trouble for the red army behind the lines if war ever came; and the promises of Soviet leaders of better living conditions for the Russian masses, implying that there may be less emphasis on guns and more on butter.

Nevertheless, according to Secretary of State John Foster Dulles, the Russian danger still is “immense and persistent.”

“This is no time for the free world to relax or weaken its own military capacity to defend and strike back,” Mr. Dulles told us recently at the National Press Club.

“We are, however, at a time when we can usefully confront Soviet rulers with a demonstration of our capacity to do two things at once—i.e., to develop military power and to increase well being.”

\* \* \*

This is the big picture as the Eisenhower Administration swings into its second year. Novel though it is in our peacetime history, it is a picture that easily becomes blurred in the tumult of Capitol Hill. The furor there makes for distraction, causes one to focus his attention on fragments of the whole.

Yet it would be well to keep in mind the direction we are traveling in a military sense, for it promises to be a fateful voyage for the American Ship of State.

Great phases or epochs of history are hard to grasp at the time they are unfolding. How many of us, for example, realized when it was happening that the United States was emerging as the most powerful and most influential nation in the world, the champion and hope of all peoples who wanted to be free.

Those of us who were slow in seeing this new role for America at least had a good alibi. We were the first people in history to be catapulted into such a position almost against our will. The nations that wanted to be top dog—primarily Germany and Japan—didn't have what it took. We did. However, we wanted to mind our own business, and

had no ambition to be a global Colossus.

My own first intimation of what lay ahead for the United States came on May 24, 1939. I was traveling as a reporter with the late King George VI and Queen (now Queen Mother) Elizabeth in their tour of Canada. War clouds were heavy over Europe, but it would be four months before Hitler would actually invade Poland.

King George, stopping off in Winnipeg, made an extraordinary and prophetic speech.

"For a long time in history," he said, "it was the mind of Europe which led the march and fixed the aims of progress in the world. But the tide of inspiration is no longer running as it did in times gone by."

The moment had come, the British monarch said, when the Old World might well look to the New for hope and guidance.

I was impressed by the King's statement, naturally, since I had to write a news story about it; but I had no idea of its portent. It was only in retrospect, when the United States was fighting in two major theaters of war and producing more than its friends and enemies combined, that I appreciated its true significance.

\* \* \*

To get back to the Eisenhower arms program, it is certain that this is not going to go through Congress without a fight—or at least without an explanation that will pacify those who are now disturbed by the prospect of manpower cuts in the Army, Navy and Marine Corps.

Secretary of Defense Wilson argues that the United States cannot continue the costly military program inherited from the Truman Administration, that to do so "would almost surely endanger the economic health of the country."

The armed forces now total about 3,500,000.

Even after they are trimmed in the next three years—to something under 3,000,000—they still will be about twice what we had just before Korea.

What the cut means in dollar savings may be judged from official figures recently put out at the Pentagon. These show that each recruit costs the Army \$5,800 in the first year and \$5,200 a year thereafter.

Thus a reduction of 100,000 men would mean a saving of \$520,000,000 a year.

But this is only part of the "new look" program. The other part has to do with new weapons, which are based on the baby A-bomb. These, it is contended, will give Uncle Sam "more bang for a buck."

In thinking about the new weapons, we have to get away from the notions most of us have had up until now about the atomic bomb and the hydrogen bomb. The A-bomb has been used only twice in warfare—on Hiroshima and Nagasaki. Our thinking about it, therefore, has continued in that pat-

tern—that is, as a weapon for destroying large cities or industrial and military centers.

The baby A-bomb and atomic artillery are tactical weapons, which would be used on the battlefield against concentrations of enemy troops as well as against other targets. Fired from the new atomic cannon or dropped from a fighter-bomber, it is contended, they would have a more devastating effect than regiments and regiments of old-fashioned artillery.

Had we possessed and been able to use such weapons in the early days of the Korean war, or after the Chinese came down across the Yalu, the outcome might have been far different.

\* \* \*

President Eisenhower, it is understood, has told the Joint Chiefs of Staff that they can count on using the new weapons in certain circumstances if there should be another Korea-type war. This, it is further understood, persuaded the chiefs to agree to the sharp cut in manpower over the next three years.

The thinking so far is that we would never use the atomic weapons first, but only as a retaliatory measure.

The Administration still has to convince some Democrats in Congress, notably Sen. Mike Monroney of Oklahoma, that the new weapons really can make up for the loss of manpower. The senator says he has to be shown, and he has asked for exhaustive hearings on the "entire defense blueprint."

There is good evidence that the Truman Administration, which sponsored the development of the baby A-bomb and A-artillery, expected that these would make possible a sharp cut in the defense budget.

Indeed, the evidence is to be found in back issues of *NATION'S BUSINESS*.

Former Secretary of Defense Robert A. Lovett, one of the ablest men ever to serve in the Pentagon, certainly counted on them to bring about a reduction in manpower. So did the late Sen. Brian McMahon of Connecticut, chairman of the Joint Atomic Energy Committee, who looked forward to the day when an "atomic army" would get along with fewer riflemen, fewer artillerymen, fewer flame throwers, and so on.

In this space, in April, 1952, *NATION'S BUSINESS* stated on good authority that the new weapons were expected to make it possible to "reduce the cost of defense from \$50,000,000,000 to something like \$35,000,000,000 a year."

History will decide whether the proposed cuts in manpower are too large or too early. The significant thing at the moment is that the "feast and famine" military policy is dead. The American people have at last sanctioned what Gen. George C. Marshall said long ago was an indispensable safeguard for our country—"an enduring posture of defense."



Drawings based on high speed motion pictures show NIKE's missile destroying a pilotless bomber in test at the Army's White Sands Proving Ground, N. M.

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Nike is the first system in production for keeping anti-aircraft guided missiles under constant automatic control from the ground, enabling them to track down and destroy any existing type of plane, regardless of its speed, no matter how high it flies, what evasive action it takes.

You'd find Nike's brain filling several large vans with complex electronic equipment. Signaled by an air warning net that hostile planes are approaching, Nike picks up the target and tracks it electronically. With incredible speed and accuracy, Nike pinpoints a plane's position—tracks it relentlessly—tells when



Inside central control van, these soldiers watch radarscopes as Nike automatically guides a missile to its target.

to launch the missile—follows the missile's flight—and guides it to the target at supersonic speed. Then...*the kill!*

Such a weapon may seem wholly unrelated to your familiar friend the telephone—which doesn't look complex. But the telephone you hold in your hand is connected with a maze of intricate

mechanisms in which electronics plays a mighty part.

Special skills and techniques developed jointly by Western Electric, manufacturing unit of the Bell System, and Bell Telephone Laboratories, our teammate in creating the nation-wide telephone network, were just what were needed to transform Nike from an idea to a combat-ready reality.

Working closely with Bell Laboratories, the Army, Douglas Aircraft (which is responsible for the missile itself), and with hundreds of sub-contractors, Western Electric has applied its unique ability in electronic technology to producing a mighty weapon of defense. In this achievement, Western Electric—



A Western Electric girl assembles one of the more than 300 "brain cells" that guide a Nike battery's missiles.

like all the Bell telephone companies—is continuing to carry out the Bell System's guiding principle: "Service to the Nation in Peace and War."

**Western Electric**



A UNIT OF THE BELL SYSTEM SINCE 1885

Principal units of Nike anti-aircraft guided missile system are shown here grouped in front of Western Electric test building.

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# TRADE:



SOVPHOTO

# RUSSIA'S REAL SECRET WEAPON

By HERBERT HARRIS

WE MUST not let our hopes for success of the President's plan for an atomic pool for peace divert our attention from the way the Kremlin is working around the clock to expand Russia's foreign trade. This trade is triggered to be a more immediate peril to our national security than thermonuclear advances in the USSR.

To be sure, Soviet rulers are not hampered by scruples about unleashing atomic destruction against us, without warning, by air or sea. But they are not fools nor visibly afflicted with suicidal mania. As long as our retaliatory power exceeds whatever can be flung against us, they are not likely to risk extinction.

This does not mean that the danger of global and absolute war has disappeared, but only that it has receded temporarily while the Kremlin, as never before, looks to trade to serve these purposes:

1. To hurry the industrial, atomic and other military build-up of the entire communist bloc, from the Elbe to the Yangtze, by buying a vast amount of strategic goods now banned by the West.

2. To conquer Western Europe and other economic sectors of the free world by getting them to depend on trade with the communist alignment to such an extent that, once enmeshed, they could never shake loose without inviting a slump.

3. To use all such dependence as entering wedge for diplomatic and propaganda pressures to soften up nations for ultimate ingestion into the communist sphere.

4. To shatter the plan for a European Defense Community, and to split NATO by severing our economic links with our allies, forcing them to turn increasingly eastward for economic sustenance.

5. To precipitate depression in the U. S. by battering down our combined export and import business from its present roughly ten per cent of our economic activity to practically nothing.

6. To preclude our ready access to raw materials by

engrossing output in Asia and other areas, and conditioning them to rely on communist aid for industrial development.

Already the Kremlin's trade offensive, the pattern of which has been emerging over the past 18 months, has scored solid gains. In 1951, for example, the USSR had only seven trade agreements with noncommunist countries; today it has 13, with five others pending.

They contain new and startling features, all businesslike. They are designed to correct conditions which led to widespread complaints that the Soviet Union's deliveries are late, its prices high, its goods flawed, its payments slow.

The Kremlin is writing its new trade pacts to set up joint commissions of six men, three from the USSR, and three from the party of the second part. They see to it that shipments arrive on time, that merchandise meets specifications, that barter deals are mutually satisfactory, that bills are met promptly in currency often based on parity with gold.

Even more important, these trade compacts disclose a drastic change in the kind of commodity that the USSR is willing to sell. Previously in trading with the noncommunist world it has, on the whole, confined its exports to grains, ores, timber, furs, and caviar in return mainly for finished manufactures, notably heavy equipment, together with various metals and fibers.

Today, however, Russia is starting to buy, in ever larger quantity, such consumer items as port, razor blades, butter, tobacco, textiles, and staple yarns. Most surprising of all is the fact that it is listing for export an impressive array of its own industrial products, from axles to sewing machines.

The \$200,000,000 trade agreement concluded last August between Argentina and the USSR typifies the change in Soviet foreign commerce. From Argentina, the USSR is to obtain 5,000 tons of canned meats, 5,000 tons of lamb and mutton, 3,000 tons of pork, 3,000 tons of cheese, 1,500 tons of lard, 14,000 tons of cattle hides, and 3,000 tons of sheepskins along with more customary purchases such as 20,000 tons of wool and 15,000 tons of quebracho extract.

From Russia, Argentina is to receive, among other things, 60,000 tons of steel rails and accessories, 40,000 tons of oil pipeline, 28,000 tons of iron plate, 20,000 tons of pig iron, 500,000 tons of crude petroleum, \$500,000 worth of precision instruments, \$1,200,000 worth

of tool steels and allied metallurgical products and, under a special grant of Soviet credits for deferred financing, \$30,000,000 worth of tractors, harvesters, combines, and equipment for coal mining and electrical power installations.

In all parts of South America, the USSR-Argentina agreement has had a contagious effect, arousing great expectations. Soon after its terms were announced, for instance, the plaintive tones of member Aliomar Baleeiro arose in Brazil's Congress.

"Mr. President," he said, "I don't wish to discuss an ideological problem here. . . . I am an adversary of the communists. . . . However, Mr. President, money and business have no ideology. Making money has nothing to do with the political ideas of any people. . . . Now for us to close our trade to the Eastern European market at a time when our country has mountains of products considered unsalable, I regard as a policy of suicide."

In this he was echoing sentiments previously expressed by conservative leaders of cabinets, parliaments and business federations in London and Manchester, Bonn and Duesseldorf, Paris and Lyons, Tokyo and Osaka, New Delhi and Calcutta.

As a clincher to his argument, Mr. Baleeiro inserted into the *Record* the text of articles from the influential *Diario de Noticias*; their gist was to urge Brazil to emulate Argentina's "traditionally realistic" example since "behind the Iron Curtain there exists . . . a virgin field . . . a market for cotton, cacao, rice, vegetable oils, sisal in return for machinery, coal, motors, trucks . . ."

Five days later the Brazilian government's expert on foreign trade was on his way to Moscow with instructions to bring back workable arrangements for thawing Brazil's freeze on trade with the Soviet Union.

"We intend," says Malenkov, "to pursue still more persistently the policy of developing trade between the Soviet Union and foreign states."

In carrying out this aim, the Soviet Permanent Committee on International Trade coordinates the work of trade delegations and commercial attachés in embassies and consulates to alert it as to where it can wangle deals that will give the USSR the best of the bargain.

But to the Kremlin, economic advantage is not enough. Every transaction has to be a package that brings supplementary gains, political, psychological, and military. Hence the committee often borrows the

**TYPIFYING SOVIET** trade agreements, this exchange has aroused much interest

## RUSSIA

60,000 tons of steel rails  
40,000 tons of oil pipeline  
28,000 tons of iron plate  
20,000 tons of pig iron  
500,000 tons of crude oil  
\$500,000 worth of precision instruments  
\$1,200,000 worth of tool steels  
\$30,000,000 worth of farm machines  
and equipment for coal mining  
and electrical power



## ARGENTINA

5,000 tons of canned meats  
5,000 tons of lamb and mutton  
3,000 tons of pork  
3,000 tons of cheese  
1,500 tons of lard  
14,000 tons of cattle hides  
3,000 tons of sheepskins  
and more usual purchases  
20,000 tons of wool  
15,000 tons of quebracho extract



**THESE ARE REPRESENTATIVES** of "business circles in the USSR and India" meeting in Moscow. In New Delhi the Kremlin's ambassador recently offered Russian help in putting up new plants and modernizing old ones, aid which Nehru declined.

most highly placed Soviet envoys to act as its own roving agents. Last February, for example, Alexander Semyonov, the USSR's trickiest, most peripatetic diplomat (he organized the atom spy ring in Canada) was dispatched to Stockholm to scout Soviet "opportunities" in Sweden. He discovered that Swedish industrialists were worried about loss of markets (mainly to the Germans, British and Belgians) for steel, machinery, and hardware, and were especially concerned about what the Iron and Steel Community (Schuman Plan) was doing to undercut the sale of Swedish hot rolled steel in Europe.

Semyonov held many conversations with government and business spokesmen.

He invariably asked if, in view of NATO planes based in Norway, Sweden's traditional neutrality extended to the air. Quite as invariably he was told that "neutrality is indivisible."

Pleased with such answers, he would pull out of his pocket a tentative shopping list which showed that the USSR would buy high-grade steels, machine tools, railroad, electrical and mechanical equipment. He also pledged that any balance in Sweden's favor would be settled in "good gold currency."

When on April 9, 1953, the Swedish-Soviet Trade Protocol was duly signed it included Soviet authorizations for \$3,000,000 worth of drilling machines and parts, \$1,000,000 in iron and steel fittings, 1,100 tons of tool steels, 100 tons of "silvery steel" for high-speed lathes, 1,000 tons of steel for drills, 300 tons of band-iron and steel, cold rolled, and so forth.

Curiously, the "protocol" did not mention ball and roller bearings that the USSR had been importing heavily from Sweden throughout the preceding year. This omission was played up by the Western European press as a portent that the USSR was slackening its armaments pace, since Swedish bearings were largely destined for military production.

But as soon as the Kremlin had wrung from such "dope story" speculations all the favorable public opinion that was possible, a supplementary clause was quietly added to the protocol. It called for bearings as usual.

From Sweden Semyonov went to Finland which, despite valiant efforts, has been drawn ever more

deeply toward economic thralldom to the USSR. The Finns are conscious of the leverage the Soviet expects from its techniques of trade penetration.

When the USSR defeated the Finns again in World War II, it imposed \$300,000,000 in reparations. But the Finns were not permitted to pay with their usual wood products, or in money. The Kremlin specified that the Finns, who until late 1945 had practically no heavy industry, must atone in the form of railroad locomotives and other rolling stock, in trucks, tankers, saw mill and electric power facilities, and floating docks.

Although 65 per cent of these products had never been made in Finland, the USSR warned that they had to be delivered within eight years.

The Finns borrowed \$200,000,000 from the U. S. and Sweden and almost from scratch sweated into existence the necessary plants and skills. But when in September, 1952, they had complied with the last penalty exacted by the USSR, they found themselves in trouble: Their new heavy industry could not compete successfully in the free world market, largely because it was geared to the Soviet pattern of production.

Despite higher prices, the USSR obligingly bought. Lacking alternatives, the Finns have been dragged further into the Soviet iron hoop of trade, with the result that the USSR which in 1938 absorbed only three per cent of Finland's exports now takes 28 per cent and is not reluctant to crack the whip of the power it thus yields over the Finnish economy.

To prevent the Finns from breaking out of its strangle hold, the USSR halted their attempts to re-export Soviet grain as a way of opening up new trading contracts. Last spring Semyonov exploited the ever present threat of Soviet trade reprisals (cancellation of orders could gut Finnish solvency) to put through a scheme which the USSR Ministry of Defense has wanted for some time. He obtained revision of the Soviet-Finnish Mutual Assistance Pact of 1948 so as to permit the Red Air Force to station fighter planes and antiaircraft units along the Finnish-Norwegian border, if, in the event of war, Finland should be unable to protect itself in the air. While under this most recent concession, (Continued on page 76)

# NEW USES SPUR ALUMINUM'S GROWTH

**A**LUMINUM makers—who multiplied national capacity six times during World War II, then doubled the 1949 production after fighting started in Korea—refuse to place any limit whatever on the future use of their light, bright metal.

Miracles are commonplace in aluminum's brief past. Hence industry leaders see no reason to doubt the magic of its future.

Aluminum's 16 U.S. smelters last year hit a 2,500,000,000 pound production clip. They plan to make 3,000,000,000 pounds this year. As soon as near-future construction is completed, U. S. aluminum capacity will go on up to 3,500,000,000 pounds annually.

Despite temporary softening of demand as defense and stockpile needs go down, producers confidently expect the American market to gulp it all.

The reason: new uses.

This, plus expansion of present uses, prompted the President's Materials Policy Commission to prophesy a 7,200,000,000 pound annual consumption by 1975.

A century ago aluminum was practically in a class with semiprecious gems.

The price was \$545 a pound.

It was \$8 a pound in 1886 when a young Oberlin College graduate, Charles Martin Hall, discovered the low cost electrolytic process still used to separate pure aluminum from its ores.

He founded the Aluminum Company of America, poured salable metal on Thanksgiving Day, 1888, and halved the price.

Today aluminum sells for 20 cents a pound.

In 1938 aluminum production in the United States totaled 286,882,000 pounds. Requirements for World War II forced a sixfold expansion. The peak was reached in 1943 when 1,840,000,000 pounds of aluminum were made in this country.

At the end of hostilities, however, production began to drop as high-cost marginal smelters were put out of operation. By 1949 U. S. capacity had settled at 1,206,924,000 pounds. After the North Koreans pushed across the thirty-eighth parallel, demands of United Nations forces and other uses called for another surge in production. Output doubled.

Thus today the aluminum industry is producing almost ten times as much as was made just 15 years ago.

Three integrated U. S. companies—with \$1,000,000,000 worth of plant and equipment and 90,000 employees—make virgin or so-called primary aluminum. They are the Aluminum Company of America (Alcoa), with seven smelters, Reynolds Metals Company, with six, and the Kaiser Aluminum and Chemical Corporation, with three.

Eighty-six firms produce secondary aluminum from purchased scrap, and turn out approximately one fourth as much metal as the primary output. Other firms also are planning to enter the field.

Anaconda Aluminum, a subsidiary of the famous copper company, has begun building a 100,000,000 pound smelter in Montana. The Harvey Machine Company, already a big fabricator, plans a 108,000,000 pound smelter at The Dalles, Ore. Government, which had aluminum

under heavy control wraps throughout the Korean fighting, has certified Olin Industries, Inc., of California, and the Wheland Company in Chattanooga to build aluminum plants.

Once produced, both virgin and secondary aluminum go into the hands of 21,949 product manufacturers, according to the latest surveys of *Modern Metals*, a light-metals trade publication. Of these plants, 15,280 make finished or end products; 4,050 make semifinished items such as shapes, extrusions, girders, and so on. The remaining 2,619 are die casters and foundries.

Unlike other metals, aluminum is not made directly from its basic ore, called bauxite, a colorful clay containing varying amounts of pure metal. An intermediate chemical process refines bauxite into a much purer substance called alumina, composed almost entirely of oxygen and pure aluminum. Alumina, in turn, is reduced to metal by the application of great quantities of electric power, which melts the purified alumina and separates metal from oxygen and dross.

Approximately ten kilowatt-hours of electric power are required to make a pound of aluminum. Power used by one of the largest companies alone would service a city the size of Chicago.

Location of its ore and of low-cost power sources dictate a far-flung geography for the aluminum industry. America has some bauxite. But the major portion of U. S. aluminum production begins with a sea voyage of 1,000 miles or more from the Caribbean islands and from South America. Aluminum pig is made mostly in the South and Northwest.

While pig must be made where power is available at lowest prices, fabricating plants must be near consumer markets. Mills, totaling 33 units, form a network covering 18 states.

Until 1940 Alcoa was the sole producer of virgin aluminum in this country. Reynolds Metals, then a foil manufacturer and fabricator, got into the business the following year. Demands of World War II brought great increases in production and soon after the war Henry J. Kaiser became the third producer. Korean fighting forced additional expansion. For that emergency producers invested about \$760,000,000 for additional capacity.

Competition is vigorous with only three primary producers in the business. This picture is now changing rapidly as four challengers—Anaconda Aluminum, Harvey Machine Company, Olin Industries, and the

Wheland Company—move in on the field.

Plenty of reasons account for aluminum's current expansion as well as for the industry's bright outlook toward the years and competition ahead. Not the least of these reasons is an effervescent mania for new uses and greater sales which seems to grip permanently everyone even remotely associated with aluminum. This pervading vim has accomplished some astonishing results.

Aluminum has moved into the rich architectural market with exterior walls for buildings, floors, inside wiring and piping. Alcoa proclaimed this conquest last year in a 30-story Pittsburgh home office made largely of aluminum.

Reynolds has cracked the home and hobby "do it yourself" market. Sparkling display stands in hardware stores from coast to coast offer the home handicrafter rods, bars, sheet, tubing and angles in a variety of sizes and shapes. Brochures and advertising notify customers that they can use wood carpentry tools on aluminum with no fear of injury. Free instruction books admonish home craftsmen to make everything from simple gadgets to aluminum furniture and storm windows.

Most big manufacturers of building hardware now offer aluminum lines for home use.

National defense, as well as industry, is part of the current sweep to light metals. In the military, heavy emphasis rests now on mobility—which in this age means movement of troops, weapons and equipment by air. These operations, in turn, place a compelling premium on weight. Aluminum-body Jeeps are undergoing field tests. If they work out well—and industry spokesmen say they will—Air Force planes can soon pack several of these busy little vehicles in the cargo hold and take off.

Large quantities of aluminum are beginning to go into military expendables such as guided missiles and rockets. The trend toward lightweight, recoilless artillery, such as the Bazooka and many heavier field pieces, will henceforth take sizable bites out of the national aluminum production.

Aluminum is finding more and more applications in naval shipbuilding—not to speak of such items as 3,000,000 pounds used in the new superliner *SS United States*, a troop carrier if war should come. In the 1954 navy construction program an attack aircraft carrier will use 420,000 pounds of aluminum; a mine

sweeper and a mine hunter will utilize 150,000 pounds each. Important tonnages will go into smaller craft.

Big new aluminum increases loom in transportation. Advent of the "piggy back" cargo trailers that move on railway cars over long hauls, then hook behind trucks for short haul feeder and delivery trips, will eat up huge quantities of metal.

Despite prodigious extension of aluminum uses in the recent past, the industry's most ardent disciples consider several big potential markets as yet largely untapped. The metal container field, for example, could consume a large portion of today's output.

Irving W. Wilson, Alcoa's president, foresees the day when each of the 6,000,000 cars turned out yearly by the automobile builders will pack 400 pounds of aluminum in its innards. The average auto today contains about 30 pounds.

Producers say they have just begun to scratch the surface with aluminum sales to the construction industry. They anticipate tremendous expansion in the use of light, mobile aluminum irrigation pipe, a relatively new product. Meanwhile, such old stand-bys as aluminum sheets and foil, power lines, and rolled, forged and cast airplane parts continue to consume metal in enormous amounts.

Industry spokesmen note expanding uses for highway signs and markers. On the farm, besides irrigation pipe, more general use of aluminum in farm equipment is expected. There'll be more in clocks, timers, indicators and similar devices, too, aluminum men say.

New alloys recently developed will place more aluminum in jet engines. In printing, greater use already has been made in the use of aluminum for printing plates.

Despite the march of aluminum production in America, there is no danger of exhausting the supply. Bauxite reserves in the Caribbean islands and South America are plentiful, and American holdings in these areas are extensive.

Alcoa's South American bauxite is centered in Netherlands Guiana with additional acreage under lease in the Dominican Republic. Reynolds owns bauxite mines in Jamaica, British Guiana, and Haiti.

Kaiser Aluminum has a \$12,000,-000 bauxite mining operation in Jamaica, and supplements this supply with contract-purchased ore in other Caribbean and South American areas.

The bauxite sources in Arkansas

## Nation's Business

CONTINUOUSLY FOR ALUMINUM INDUSTRY

FEBRUARY 1954



New uses spur aluminum's growth

This queer deer is semi-domesticated

ARMED SERVICES ALUMINUM ALUMINUM RECYCLED BY THE NAVY

and Alabama are far from inconsiderable. Geologists estimate these reserves alone would give the United States nearly ten years of production at last year's rate.

There are two real worries in the U. S. aluminum picture today: the growing scarcity of low-cost power for smelting, and formidable competition that is growing across the border in Canada.

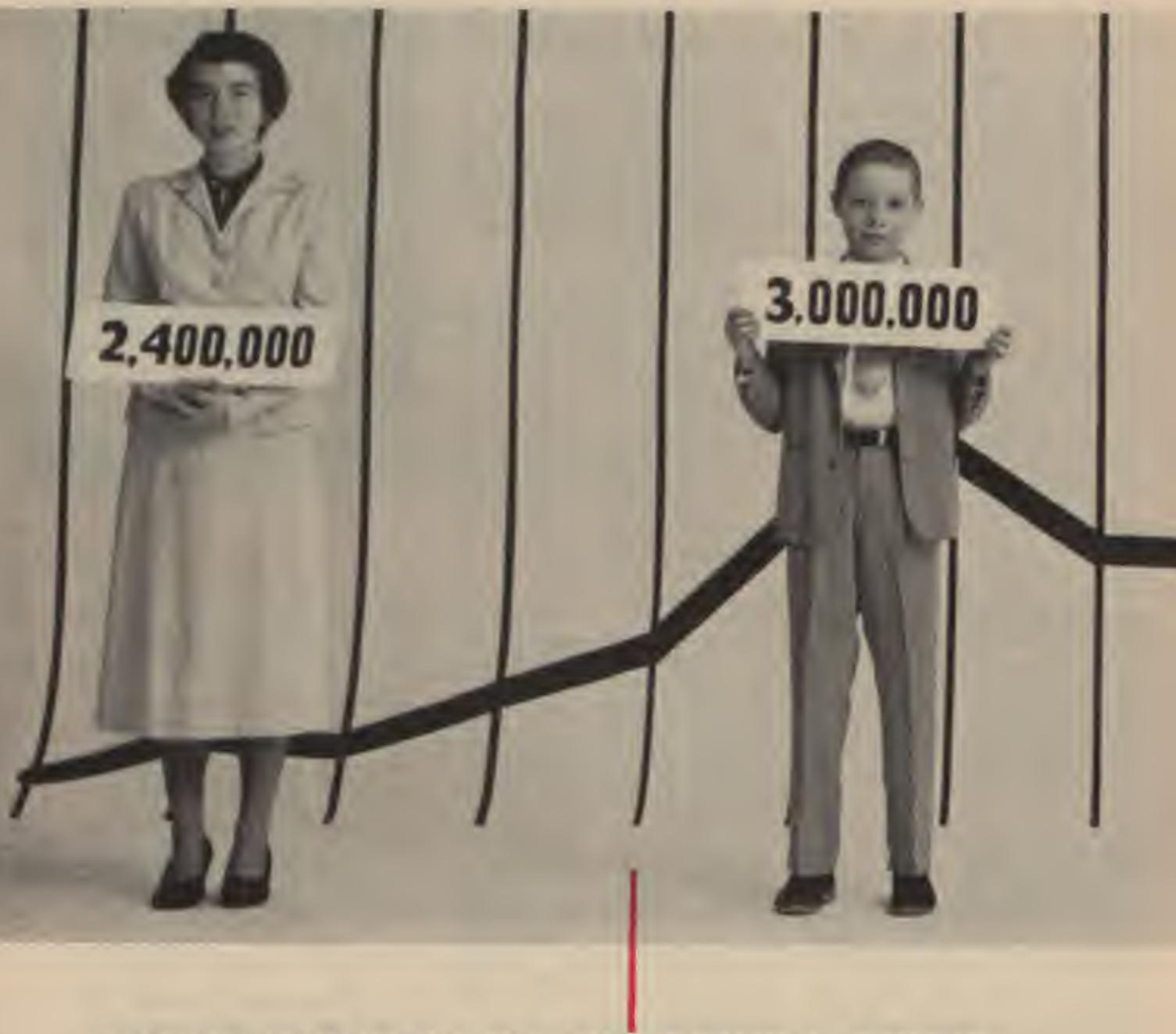
Power is the key to both hazards, and the equation is simple. For aluminum, low or at least moderate cost power in massive quantities is an utter necessity. Otherwise production costs must rise.

The Aluminum Company of Canada, known as Alcan, with almost limitless resources for cheap hydroelectric power, can cut deeply into the American market if the price of aluminum should rise sharply in the United States. Alcan is currently producing a little more than 1,000,000,000 pounds of metal a year, and building a new production giant at Kitimat in British Columbia that will increase this figure by 180,000,000 pounds when operations begin next fall.

Ultimately Kitimat will double Canada's current aluminum production.

American producers seem not unduly perturbed by this challenge. Firm power contracts of established producers still have a good while to run; they have turned to natural gas to augment older steam and hydroelectric sources. And who knows? Industry soon may be generating cheap power with atomic energy.

END



## STUDENTS' VIEW OF THE SCHOOL CRISIS

**MARY MILES.**, 16, is a senior at the George Mason Junior-Senior High School in Falls Church, Va.

Some 375 students were enrolled in Mary's school when it opened in 1952. The enrollment has jumped to more than 500 today—may reach 700 by next fall. Approximately 1,000 students are expected by 1960.

A recently completed wing is relieving congestion at George Mason, but additional classrooms will be needed within the next few years.

Today's seniors were born in the depression years when the birth rate was unusually low. In 1937, the year Mary was born, only 2,400,000 births were recorded in the United States. That's a record low for recent years. But school construction also was low in the '30's and early '40's, helping to produce current crowding.

Only ten per cent of the boys and girls in the age group 14-17 were enrolled in secondary schools in 1900. Now more than 80 per cent are in high school, and an increasingly greater number of them are completing high school and going on to college.

**MICHAEL HAVENS**, 11, is in the fifth grade at Dunn-Loring School in Fairfax County, Va.

Michael's school is crowded, too. His class meets in the school library, or, to be more precise, in what was the school library. The library books were moved to the school clinic—and the clinic equipment was moved out.

There's a new wing at Dunn-Loring. But it isn't big enough. Michael's school is still crowded and will be more crowded next year—and the year after next, unless more rooms are added.

Michael was one of 3,000,000 children born in 1942—600,000 more than were born in 1937. On the basis of 30 children per classroom, this 600,000 increase means that, when Michael becomes a high school senior in 1960, his classmates will fill some 20,000 more rooms than Mary's class fills today.

The national birth rate began a sharp upward climb in 1942.

Also World War II brought a decided increase in the number of U. S. marriages.



EDWARD BURFA

**JODY ANN SHRINER**, 6, is in the first grade at St. James School in Falls Church, Va.

Her class of 54 pupils goes to school in the morning only—because another group of first graders must use the classroom in the afternoon. About 600,000 American school children are on double shifts today because of the classroom and teacher shortage.

Jody Ann attends a parochial school. (The space problem affects all the nation's schools, parochial, private and public.)

There were 3,800,000 births in 1947, the year Jody Ann was born. That's 800,000 more than 1942. When Jody Ann's class reaches the fifth grade in 1957 we will need 27,000 more fifth grade rooms than are available now, and 27,000 more fifth grade teachers.

This generation proved the "vital statistics" experts wrong in predicting that total annual births would taper off. They were wrong a second time in predicting that the birth figure would never again reach such heights. Despite a slight dip in 1948-49-50, the total rocketed upward again in 1951 and is still climbing.

**MARY BETH FOSTER**, shown with her mother, Mrs. Carl Foster, of Pimmit Hills, Va., is only 10 months old.

Mary Beth won't be going to school for five or six years but, when she does enter first grade, her mother hopes that the facilities will be better than those which greeted Jody Ann.

The experts who said the 1947 birth total would never be surpassed and probably never equalled are really red-faced about Mary Beth's generation. The birth total in 1953 was about 4,000,000.

In our public, private and parochial schools today are 34,233,700 children. Of this number 26,931,300 are enrolled in elementary schools, 7,302,400 in secondary schools.

Since 1945 the nation's public school enrolments alone have increased by almost 8,000,000. Enrolments will increase by more than 1,000,000 each year for at least the next six years.

There, in brief, is our school problem—a growing number of students in need of more and more classrooms, teachers and other facilities.

*Here's how the problem affects American business . . .*

# Warehousemen chill



# everything but ideas

► *The refrigerated warehouse industry is growing rapidly—not only in the amount of space but also the variety of items stored. Today you're as likely to stumble over a budding cherry tree or an auto battery as you are a "longhorn" of Wisconsin cheese or a bale of hops*

By SIDNEY SHALETT

THE REFRIGERATED warehouse industry, which has been growing at a rate of more than 7,000,000 cubic feet a year into the cold but enviable role of home freezer to the nation, is a business with as many facets as the great Kohinoor diamond. A good illustration of the complexities peculiar to the industry is the Case of the Curiously Confused Cherry Blossoms.

The cherry blossom incident shows the sort of thing that can and does happen in the business. For refrigerated warehousemen, in addition to serving as custodians of more than 300 different kinds of products, ranging from frozen meat carcasses, fish, poultry, fruit juices, packaged vegetables and ice cream to chilled butter, cheeses, eggs, mushrooms, chocolate candy, blood plasma, batteries, cellophane and glue, actually are dealing more and more with artificial control of seasonal nursery stock.

Anyhow, before the annual convention of the National Association of Refrigerated Warehouses in Washington, D. C., late last May, William Dalton, NARW's executive vice president and general secretary of its parent American Warehousemen's Association, got to brooding over the fact that the delegates would be too late to enjoy the blossoming of the famed Japanese cherry trees. Then, remembering the fable of Mohammed and the mountain, he had an inspiration: If his warehousemen couldn't come to the blossoming, why not bring it to them? He persuaded a local member to purchase five budding Japanese cherry trees from a nursery; called in a horticulturist for consultation; then impounded the trees, properly pro-

tected, in the cooler room of a Washington warehouse.

"The idea was," Mr. Dalton mournfully relates, "to keep the blossoming in suspension, as it were, by exposure to a constant 32 degrees temperature. After all, we do the same thing for florists with lily plants and poinsettias at holiday seasons, and we're even beginning to keep cut roses in vacuum-sealed containers—but that's another story. Daily we lavished tender care on those trees. Everything was working fine and I had a big sign made up for the exhibit, saying, in effect: 'You may have missed the cherry blossoms, but here they are, courtesy of your ever loving National Association of Refrigerated Warehouses...'"

"Then, the day before the convention someone wheeled them out of the cooler room. They should have been whisked straight to the hotel in a refrigerated truck and 'decompressed' gradually, like a diver with the 'bends'; instead, they were left for several hours in a sun-scorched alley. Result: The buds erupted like popcorn and the warehouse hands were treated to an expensive display of postseasonal blossoms. The nearest thing to cherry blossoms that our delegates saw were the garnishings in their Manhattan cocktails."

Warehousing is an old art, going back to the days when prehistoric man used to stick chunks of saber-toothed tiger meat into cool caves to keep it from spoiling. The Bible tells how Joseph, the progenitor of all warehousemen, stored grain for the seven lean years. As civilization grew, man experimented with preserving perishable foods with snow, ice and salt mixtures. The first actual refrigerated warehouse in this coun-

try, using natural ice, was built in New York City in 1865, the same year the Civil War ended. As mechanical refrigeration came into its own, warehouses began making their own ice with a liquid ammonia and brine process. In 1890 the first mechanically refrigerated warehouse was built.

By 1905 there were 100,000,000 cubic feet of cold storage space in the United States. Today nearly 800 public refrigerated warehouses offer approximately 450,000,000 cubic feet.

"That's enough," says Mr. Dalton, "to make a single building, 100 feet wide, ten feet high, more than 80 miles long, and capable of holding more than 6,000,000,000 pounds of perishable foods."

The era of the home freezer and the phenomenal rise of the frozen foods industry brought another step in the evolution of American warehouses. Thirty years ago refrigerated space consisted of 80 per cent "cooler" facilities—for limited storage of foods requiring cool but not freezing temperatures—and 20 per cent actual "freezer" space. Today the figures are reversed. Many modern warehouses also have their own quick-freeze tunnels to accommodate customers who lack such facilities of their own.

Just as the home freezer is a boon to the pocketbook of the housewife who knows how to use her freezer properly, the refrigerated warehouse is a vital economic factor in the life of the community. There are two sides to its services: In addition to earning its daily bread and butter by actual storage of food and other items, the warehouse industry spon-

(Continued on page 70)

# HERE'S HOW IKE'S

**T**HE Eisenhower Plan for world atomic research will shape into a practical scheme for bringing the powers of the atom to John Doe, while averting the decimation of mankind.

That's the view of administration spokesmen. These same men insist that while the plan evolves there will be no soft touches or release of military secrets.

Talks within the White House, Atomic Energy Commission and Capitol Hill all revolve around one grim fact—there are no basic secrets in atomic energy.

The philosophy leading to the Eisenhower Plan was put before a Senate committee nine years ago when one of the atom bomb inventors, Dr. J. R. Oppenheimer, then research director at the Los Alamos bomb plant, said: "All we did was to take a tree ripe with fruit and shake it hard. Secrecy is not possible. The nature of the world is not secret. Only policy is secret. You cannot keep the atom secret. . . . The immediate problem, it seems to me, is to get confidence among nations, not force them apart by trying to build up a great secret. Other countries will say, 'Keep your secret! We'll do it another way!'"

Bringing this mood up to date, Rep. W. Sterling Cole, Republican of New York, chairman of the powerful Joint Congressional Committee on Atomic Energy, outlined three major aims of the Eisenhower Plan:

1. "Our great hope is to change the world focus away from an all-out atomic arms race to working together for humanity. It is simply a matter of self-preservation. The time will come when almost every nation will be able to manufacture its own bombs. This could lead to the most costly and deadly arms race known to mankind. Eventually some dictator would grow impatient and a horrible war for survival would begin."

"But if we can encourage nations, perhaps a few at a time at first, to work together improving health and living standards, that will be a start toward less suspicion and more world cooperation."

2. "It is no idle dream that atomic power can be harnessed to wipe out the real causes of war, hunger and poverty. It can be used to propel ships, planes and trains; create industrial power, pump irrigation waters over vast deserts, and de-salt sea water."

3. "The wider the research, the more results in the war against disease. Scientists working in Karachi with radioactive isotopes from Oak Ridge could make a finding which, tied in with work at London and Paris, would give the clue to unlock the secret of cancer. This also could be true of the mysteries of photosynthesis, or the birth and growth of plants, and other great mysteries of the world."

How might the Eisenhower Plan operate?

Congressman Cole, a student of atomic control, suggested:

"The chief contributors at first would be the United States with knowledge and reactor fuel, England with knowledge and Canada and Belgium with raw uranium ore. But, as the plan expands, ore, fuel and knowledge will come from many nations. The United Nations

could create an Atomic Council with five or six members to guide the program and maintain control over the pure fuel, U-235 and plutonium.

"A nation wishing to have an atomic reactor (the machine for splitting the atom and creating power and heat) or an accelerator (a research apparatus) would come before the Council, present its design, explain what it wants to do with the machine and its means of financing. The nation could finance the device from its own funds, borrow from the World Bank or private bankers, or make arrangements with United States foreign aid. The U.N. would supply engineering talent and knowledge, radioactive isotopes for research and fuel. For the latter, the U.N. must impose close control and fix a charge. At present, U-235 costs about \$9,000 a pound. The supply is limited and it can be used as fuel for a bomb."

"A nation coming within the U.N. program would submit to inspection and an audit of fissionable material."

What would prevent this from turning into a mass giveaway?

"Each project should be justified economically and on a self-liquidating basis before the U.N. If Egypt and the Sudan apply for a reactor to pump irrigation through the Sahara Desert, they must convince the U.N. that this is practical. The plan must satisfy the hard-boiled scientists and agriculturalists of the U.N. that it will work, and pay for itself over a reasonable period. Otherwise, the U.N.'s atomic assets would be dissipated in a generation."

"The projects could have a cooperative benefit, too. Power reactors could also produce plutonium for the world supply, as a part of the U.N. pool. This would decrease the costs to the local areas served."

How could the United Nations prevent the sharing of knowledge from being subverted to military uses?

"When a nation brings its reactor design to the U.N. Council, the staff could easily find out if the proposed machine could be used for war. This type design would not be approved."

Understanding of the plan for world atomic research requires an understanding of the development of atomic energy.

In the early 1930's, science made a dramatic discovery. It found a more violent energy than man had ever produced—released by a hard, radioactive metal used to color porcelain. This was uranium. When unchanged particles known as neutrons hit the hearts of uranium atoms, the atoms split. They gave off a furious gust of heat and energy. In one one-millionth of a second, a split atom released 200,000,000 electron-volts.

In effect, this is the power of the sun giving life to the universe. The sun is a huge mass of splitting atoms. The rays of the sun coming across millions of miles of space create the energy of life.

Scientists found that striking the heart of the uranium atom with the neutron was like dropping a

# ATOM PLAN WOULD WORK

match into a pool of gasoline, only thousands of times more powerful. One whimsical expert observed, "The neutron is like a meddlesome mother-in-law barging in on a happy household. She creates a hell of a ruckus."

The development of atomic power was violently influenced by politics. Albert Einstein's theory showed conclusively that atomic energy was possible. Enrico Fermi proved it in his Italian laboratory. When Hitler came to rule Einstein's Germany, the scientist came to America. Fermi, too, fled from Mussolini to freedom in the United States. Both alerted the government, gathered scientific knowledge, and gave their wisdom to the program. The year of decision was 1939. Dr. Nils Bohr of Denmark, visiting here, described the fascinating calculations of Dr. Lise Meitner, another refugee from Hitler. And, at Princeton, Dr. Leo Szilard, a native of Hungary, reached deeper into the mystery.

By this time, German scientists at the Kaiser Wilhelm Institute were working frantically to find a giant new weapon for the Axis. The tip-off came when shipments of uranium to the free world from Czech mines suddenly were halted.

Two weeks after German tanks smashed into Poland, Einstein sent a warning note to President Roosevelt. He reported Germany was racing to master the atom, and added, "... it may be possible to set up a nuclear chain reaction in a large mass of uranium, by which vast amounts of power and large quantities of new radiumlike elements would be generated... This new phenomenon would also lead to the construction of bombs... A single bomb of this type, carried by a boat and exploded in a port, might destroy the whole port, together with some of the surrounding territory..."

Einstein's theory was dramatically proved Dec. 2, 1942, at the University of Chicago. A nuclear chain reaction was created in a pile of graphite. When the neutron made a direct hit on the uranium atom's heart or nucleus, three new neutrons were created like genii out of the air. At least one of the three would smash another atom and create three more neutron bullets. This process could go on indefinitely.

From this moment, billions of dollars were thrown into the project for fear Germany might be first with the bomb. Early on June 16, 1945, the atom bomb was born with a vivid flash and a mighty roll of thunder on the New Mexico desert.

The difference between the bomb and the Chicago chain reaction was control. The action in the University's reactor was a controlled and slowed down release of energy. The energy release in the bomb was controlled only to the point where the shell cap was blown off. Then, the elements raged.

Germany fell before its scientists solved the mystery. Russia then tried to catch up. It kidnapped and lured scores of Hitler's scientists, stole secrets and, four years later, exploded a bomb.

Today, scientists say only time keeps smaller nations from A-bomb production. This is why President Eisen-

hower was advised to strike boldly for an international pool of peaceful atomic energy.

Certain projects could be turned over usefully to a cooperative world program. They include:

1. Training of atomic scientists: Those with basic and instructive knowledge of this new world in science are almost exclusively in the United States, Britain, France and Russia. Here the Atomic Energy Commission has wisely turned its peacetime research over to colleges and universities. U.N. scholarships for young men and women from all nations could be in themselves a strong force for a peaceful world.

2. Pure research: Again, the AEC has a pattern for cooperative laboratories. The famous Brookhaven National Laboratory on Long Island is operated cooperatively by nine eastern universities, and other commission research centers have similar arrangements. Within the U.N. smaller nations could pool their talents in one productive laboratory and be guided by U.N. experts.

Pure research is the source of all practical knowledge and, before the atomic era, the U.S. was weak in this field. Today we have filled the gap and can show the way in atomic research.

At Brookhaven, for example, scholars are trying to penetrate the mysteries of the cosmic ray, the invisible radioactive visitor from outer space which violently bombards the earth. At the Radiation Laboratory, on the University of California campus, a \$10,000,000 betatron will split the nucleus into infinitely tiny particles never before seen. The goal is to discover how the nucleus, center of all life, is held together. The Commission is planning the synchrotron, an even greater machine, to search within the nucleus. It will hurl 25,000,000,000 volts at the tiny nucleus.

3. Practical research in such vast, unknown fields as "rare earths," or new metals: In the brief time the Atomic Energy Commission has been operating, practical research has pointed the way to new metals of great value in industry, treatments for tumors and cancers, testing of rubber, valuable fertilizers, stronger detergents, etc.

4. Using the great power of the atom to irrigate, heat, light and operate factories: England's coal reserves are so low they may become uneconomical to mine in 30 years. Scandinavia is short of fuel. Much of Latin America is undeveloped because the cost of bringing in fuel is prohibitive. Yet a pound of U-235 equals 1,300 tons of high-grade coal.

Shipping costs can be lowered tremendously when atomic power comes within the dollars and cents range of industry.

These are a few of the thoughts behind the solemn words of President Eisenhower before the United Nations.

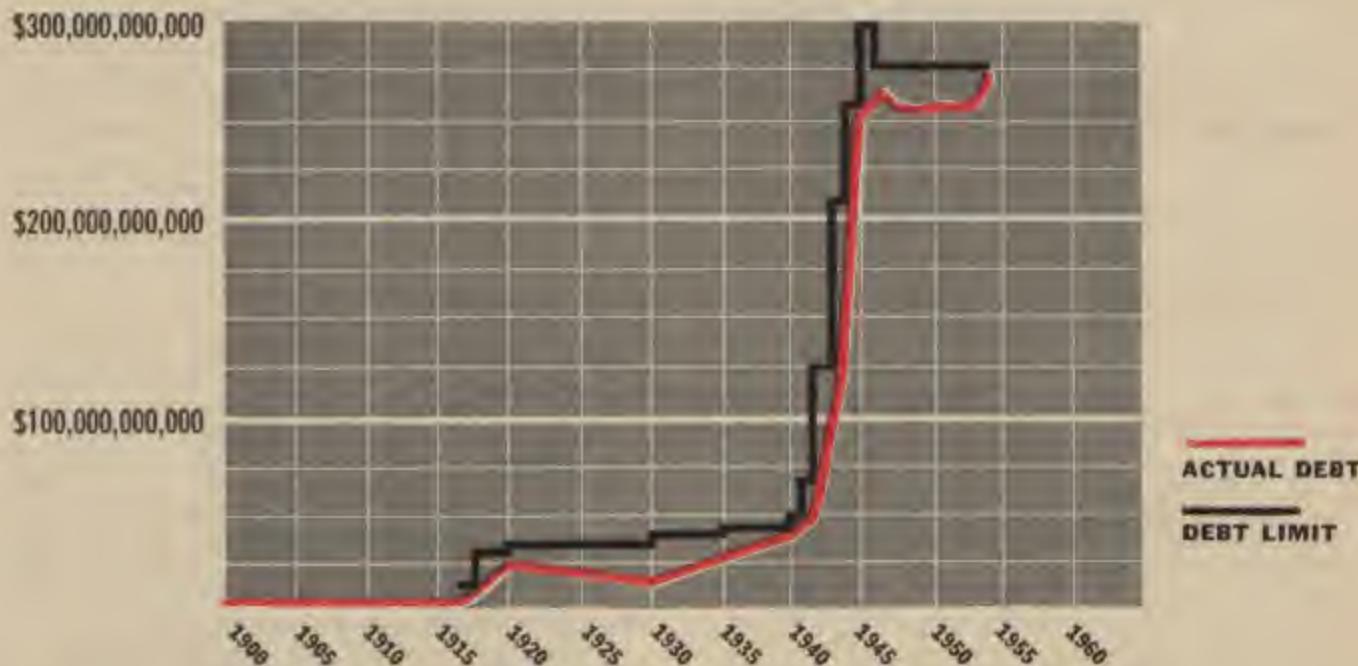
"My country's purpose is to help us move out of this dark chamber of horrors (atomic war) into the light, to find a way by which the minds of men, the hopes of men, the souls of men everywhere can move forward toward peace and happiness and well being." **END**

—TRIS COFFIN

# BIGGEST DEBT IN THE WORLD

By GEORGE CLINE SMITH

*Whether to repeat precedent by raising the debt limit once more is a controversial issue*



**O**NCE, a long time ago, our federal government had no debt. In fact, it had a surplus.

This happened in 1835, and it is the only instance of its kind in our entire history. Many people who went through the 1835 experience might have felt that this is just as well, because the situation was embarrassing all around. Nobody knew how to stop the money from coming in, since most of the revenues came from customs, and high tariffs were much in favor. The argument over what to do with the surplus temporarily overshadowed the slavery debate.

It was decided finally to parcel out the money to the states, and this program was well under way when the depression of 1837 came along and solved the surplus problem.

The situation today is radically changed, and our chief worry is how to keep the debt from becoming a sort of Frankenstein monster which will swallow up the whole national economy. This worry is summed up in the current controversy over whether or not to raise the debt ceiling, which limits the direct debt of the federal government to \$275,000,000,000.

The debt is far more important than most of us realize. It is comforting to say that, after all, "we owe it to ourselves," but even if that were true—which it isn't—the debt would still produce far-reaching effects.

The truth is that all of us who are present or potential taxpayers—in other words, all of us—owe the debt to those of us who, through the

virtuous motives of patriotism, prudence or thrift succumbed to the blandishments of the Treasury Department and bought government bonds. In short, all of us owe the debt to some of us. When we cease to recognize that fact, then the credit of the United States also will cease.

Americans who are fond of boasting in terms of biggest, tallest and most can hail our national debt as being far the largest in the world.

The national debt averages more than \$6,000 per family. Interest payments on the debt during the current fiscal year will cost the taxpayers almost \$6,500,000,000. Interest payments make up the third largest item in the federal budget, exceeded only by national defense and foreign aid. The annual interest payments add

about \$140 a year to the average tax bill per family.

But the direct burden of the interest payments is only part of the debt problem. The debt is created by government borrowing, and this borrowing is an important cause of inflation — perhaps the most important cause. When the government sells bonds to the banks—as it must to finance large-scale borrowing—it creates a base for enormous new expansions of credit money. More money bidding for limited supplies of goods and services forces prices upward. This inflationary force has a particularly vicious impact since it also forces government costs upward, often leading to more borrowing to pay for the increase in government spending.

The borrowing itself is not the only inflationary effect, however. The Treasury controls the interest rates paid on government bonds and, in an effort to keep expenses down, it naturally favors low interest rates. This wouldn't cause much difficulty if the debt were small, but when government is by far the largest single borrower in the money market, the interest rates it pays have a tremendous influence on interest rates in general. Low government rates mean low rates generally, making for easier credit and more inflation.

Congress has long recognized the need for control of the debt, but so far it has relied mainly on only one control device, the debt ceiling. This ceiling was first applied in 1917, when Congress began to fear the consequences of World War I borrowing. The first ceiling set was \$11,500,000,000. This figure, which seems almost pathetic today, didn't last long. It was raised frequently until it reached \$37,500,000,000 in 1921. Deficit spending in the Great Depression brought further increases, but it wasn't until World War II that the debt assumed modern proportions, and the limit reached the stratospheric total of \$300,000,000,000 in 1945.

When the war ended, the Treasury had tremendous amounts of recently borrowed cash on hand, so Congress reduced the debt limit to \$275,000,000—where it remains. This reduction was painless because of the Treasury's cash position, and the debt stayed comfortably below the \$275,000,000,000 limit until a few months ago.

Behind the history of the debt limit is a record of almost continual increases. Whenever a President has insisted that the limit was beginning to pinch, Congress has given in after a respectable period of heel-dragging. The debt limit perhaps has

served as a psychological brake on borrowing, but it has had little real effect in preventing the growth of the debt. Only to the extent that Congress holds the line can the debt limit serve its intended purpose.

There's another flaw in the debt limit which is not very well known: The limit is based on a concept of the public debt which has little meaning. Paradoxically, the published figure for the national debt is much too high or much too low, depending on which of two common sense definitions is used.

Right now, the published reports show the debt hovering around the \$275,000,000,000 limit. But the ways of government accounting are strange, and a careful look at the figures behind the total shows that federal government agencies own \$48,000,000,000 worth of interest-bearing federal securities. That much of the debt, then, is owed by the government to the government, and the government is paying itself interest on it. In this sense, the \$48,000,000,000 is a paper debt; and the debt owed by the government to persons and organizations outside the government is only \$227,000,000,000.

On the other hand, the government has vast long-range commitments and "contingent liabilities" which are not included in the debt and which are subject to no over-all limit. This indirect debt has been estimated at from \$200,000,000,000 to \$300,000,000,000 depending on how it is defined. Examples of such commitments include home-loan guarantees, government life insurance in force, subscriptions to international organizations, and funds appropriated by Congress which have not yet been spent.

It is true that the government may not be called upon to meet many of its contingent liabilities. But this indirect debt has effects very much like those of the direct debt on the supply of money and credit, and on interest rates. Yet it is not controlled, not regularly reported, and generally not understood, even by the experts.

The current controversy over the debt limit deals only with the direct debt, and, for the moment at least, only with the problem of how to keep it from going higher. A bigger and tougher problem lurking in the background is the matter of eventually cutting down the size of the debt.

A public opinion poll would undoubtedly show a large majority of the people in favor of reducing the debt, just as they are against sin. Actual reduction of the debt, however, poses many problems.

A nation may rid itself of the

burden of a large debt in three basic ways: It may pay off the debt by spending less than it collects in taxes; it may repudiate the debt; or it may repudiate the purchasing power of the debt through inflation. History shows that the last method is almost inevitable. There is a simple economic reason for this:

Debtors always gain from inflation, and creditors lose, because the dollars used to pay back the debt are worth less, and easier to get, than the dollars which were borrowed. A debtor government not only gains in the same manner, but is also in a position to bring on the inflation.

The growth of the debt itself is a powerful inflationary force. When the government adds to that force an easy-money policy by deliberately keeping interest rates at an artificially low level, the resulting inflation is even greater. Our own Treasury followed such a policy during the decade 1941-51.

The results are history. At the end of World War II the debt was nearly as high as it is today. But in the intervening years inflation has reduced the value of the dollar by more than 25 per cent. In terms of purchasing power, roughly a quarter of the debt has been repudiated. As in every repudiation, someone had to suffer. In this case, those who paid were the holders of bonds, other creditors and persons on fixed incomes who always lose out in inflationary periods.

There are several reasons why even a prosperous nation like ours doesn't go ahead and pay off its debt. The first one is strictly political. Whenever the government's finances get in such good shape that income is greater than spending, Congress is much more likely to give top priority to tax cuts than to paying off the debt. We are seeing an example of this in 1954, an election year, with tax cuts going into effect even while the national debt is threatening to rise.

There is an economic problem connected with paying off the debt, too. Just as an increasing debt is inflationary, decreases in the debt will mean contraction of the supply of money and credit, and consequent deflation. In periods of prosperity, many government officials are afraid that debt reduction may bring on a business downturn. In periods of recession, increasing debt is encouraged in the hope that its inflationary impact will bring prosperity. The question then arises: If the debt isn't going to be reduced in periods of prosperity or recession, when is it going to be reduced?

(Continued on page 69)

# ATOMIC VICTORY DEPENDS ON THE NAVY

By ADM. ROBERT B. CARNEY  
*Chief of Naval Operations*

**O**UR Navy is on the threshold of a revolution! Dreamed of for decades, planned for years, the revolution will be spurred on only a few days from now—on Feb. 15—when a unique engine is installed in a newly launched submarine at Groton, Conn. The engine produces atomic power; the atomic power will propel the submarine.

Thus the *USS Nautilus*—a joint product of the Navy, Atomic Energy Commission, Westinghouse, and the Electric Boat Division of General Dynamics Corporation—becomes the first nuclear-powered warship of the fleet, forerunner of the Navy of tomorrow. For surely, as the sail gave way to steam, diesel power will give way to atom power as tomorrow's means of ship propulsion.

The revolution ignited aboard the *Nautilus* some day will literally sweep our present-day fleet—mightiest in the world though it is—off the seas and replace it with task forces of incredible speed, limitless cruising range, and crushing striking power.

True, one atomic ship—one atomic sub—doesn't make a fleet. But it's a start, a vitally important start, because in the atomic era, control of the seas—and with it, survival of the free world—may well go to the nation which first converts its navy from oil to atoms.

Even as the *USS Nautilus* prepares to receive its revolutionary engine, a sister submersible, the *USS Sea Wolf*, is under construction, and already studies have been made looking toward the possibilities of a nuclear-powered carrier. Tomorrow—but not overnight—it is inevitable that all of our major ships of the line will be given a virtually limitless flow of power from atomic reactors, or furnaces.

The big problem—getting over the hump in regulating atomic fission so as to produce controlled power—has been licked. We knew that, if an atomic engine could be developed for the submarine, it would be feasible to harness nuclear fission to the propeller-turbines of our surface ships. Today, the *Nautilus* gives our Navy, we believe, the lead in atomic sea-power; yet the *Nautilus* is but the Model T of our Navy of tomorrow.

Security precautions necessarily prevent me from disclosing in detail the impact of the atomic engine on our fleet. Such a disclosure would only serve to aid our enemies. Nevertheless the significance of atomic power harnessed to our fleet can be seen in sharp focus through a single statistic: The potential energy in a lump of uranium the size of a golf ball is equivalent to 465,000 gallons of oil, or 6,000,000 pounds of coal.

Until today, the cruising range of a warship has been limited by the amount of oil it can stow away in its hull. When the oil is consumed, the ship must head for a fueling station or fueling vessel. During World War II, in developing the fast carrier task force, the Navy set up a mobile refueling base which followed the task force. This innovation has considerably extended the striking power of the task force, but requires an endless chain of supply ships to replenish the mobile base. Furthermore, refueling at sea is hazardous, time-consuming, and costly.

The atom-powered fleet of tomorrow—again I emphasize tomorrow, but not overnight—will need neither refueling stations nor refueling ships. The ship will have unlimited cruising range. The ships will be enabled, through nuclear power, to utilize the tremendous hull spaces, now given over to oil storage, for more planes, for more aviation gasoline, for more weapons, ammunition, and other material. The ships of tomorrow, because of atomic power, will be lighter, more powerful, and cheaper to operate.

Atom power will convert our submarines into true submersibles. Our World War II subs which performed such herculean labors against enemy vessels were severely restricted in their underwater activities by the frequent need to surface to replenish oxygen and recharge batteries. Development of the snorkel breathing tube by the Germans—since improved by our own naval engineers—has permitted longer periods of submersion, but, except for brief spurts, the snorkel submarine has to be operated at a comparatively low speed.

The atom-powered submersible, requiring no oxygen supply for its atomic furnace, eliminating the problem of expelling deadly fuel      *(Continued on page 58)*

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*The drawing on the opposite page gives a preview of the Navy of tomorrow's air-sea-undersea power. Looming large is the FORRESTAL, the giant carrier now under construction. The cruiser CANBERRA is being converted into a missile-firing man-of-war by replacing gun turrets with launching platforms. Submerged is the NAUTILUS, the first nuclear-powered warship of the fleet. It was launched last month.*

DRAWING BY ROY TELLER



# HOW'S



## AN AUTHORITATIVE REPORT BY THE STAFF OF THE CHAMBER OF COMMERCE OF THE UNITED STATES

### AGRICULTURE

A tough business problem confronting millions of farmers this spring is what to plant. As a result of acreage reductions or marketing restrictions on wheat, cotton and probably corn, more than 25,000,000 acres of crop land must be diverted into other crops in 1954.

Most agriculturists are expecting an increase of some 3,000,000 acres in soybean plantings in 1954. A record 16,500,000 acres was planted to this crop in 1953 but drought damage made the yield per harvested acre the lowest since 1947 and the crop was 12 per cent under 1952. Increased planting will most likely result in a lower price for soybeans this year than the mid-December 1953 average price of \$2.81.

Plantings of rye (up almost 1,000,000 acres already—fall plantings), oats, barley, possibly flaxseed (of which we have a more than abundant supply already) may also increase, as may acreages planted to vegetables and small fruit.

In any of these choices the farmer wants to maximize his earnings, but by increasing his acres of soybeans, barley, oats, etc., he may merely succeed in further depressing prices.

### CONSTRUCTION

A government housing program based on an understanding of market requirements and designed to facilitate the operation of the market is

something new in history. Yet that is what the President's Advisory Committee on Housing Policies and Programs offers in its recent report.

Of primary importance is the Committee's recognition that, if the FHA and VA systems are to benefit the private housing market, the interest rate on insured and guaranteed mortgages must truly reflect the competitive demands for money. The Committee proposes to continue control over the maximum permissible rate and at the same time administer that control so that a competitive level will be maintained.

The allowance for flexibility in interest rates does not necessarily imply that an upward adjustment would follow enactment of the proposed plan. At present, the rate trend is downward. By spring it is possible that the present rate may have become a par rate or so close to it that no adjustment is needed. But the means of making the adjustment, either upward or downward, must be present so that the flow of funds required for a sustained volume of building will not be impeded by a thoroughly artificial situation.

### CREDIT & FINANCE

Proposals to raise the present \$275,000,000,000 limit on the federal debt face rough going this year in Congress.

For one thing, there will be powerful opposition, led by Senator Byrd and others who argue that the debt

limit is one of the best means Congress has for controlling government spending.

In the second place, federal revenues will greatly exceed spending during the next few months, easing the debt situation. This is an annual occurrence, caused by the fact that revenues are concentrated in the first half of the calendar year.

The situation will be reversed during the second half of the year, when the debt limit will begin to pinch again. But with the immediate pressure off, Congress will take its time making any decision on whether or not to raise the limit. (For background on the debt problem, see page 36.)

### DISTRIBUTION

The first survey of the National Distribution Panel, sponsored by U. S. Chamber's Domestic Distribution Department, reflects considerable optimism for distribution in 1954. The panel, made up of leading retail, wholesale and service executives from every state, shows a confidence lacking in many 1954 forecasts.

Almost 50 per cent of the respondents anticipate a 1954 sales volume higher than in 1953. Another 25 per cent expect to equal their 1953 volume. Nearly 40 per cent are establishing new outlets or taking on new lines of merchandise.

The primary problems of distributors, according to the panel, are, 1, trying to maintain sales volume in a highly competitive market and, 2, controlling operating costs. To help solve these problems, sales promotion and advertising budgets are being boosted slightly over 1953.

Most retail and wholesale inventories appear pretty well under control for the beginning of the year.

Inquiries received at the National Chamber indicate a hurried up drive to improve sales training and selling methods. The customer is once again king.

### FOREIGN TRADE

Recognizing that the various measures the United States has undertaken in recent years to encourage the flow of private investment capital into foreign areas have not been a rousing success, the U. S. Chamber advocates that Congress change certain U. S. tax laws to provide greater

# BUSINESS? a look ahead

incentives for private investments to go abroad.

Taxing earnings from direct foreign investments at a lower rate, commensurate with the higher risks inherent in investing abroad, is expected to increase U. S. private foreign investments and benefit both U. S. foreign trade and economic development abroad. A report just published by the Chamber entitled "U. S. Tax Incentives for Private Foreign Investments" recognizes that American business has long carried on its private Point IV Program: Corporate investments in foreign countries, so-called direct investments, are accompanied by technological and management training which benefits both the recipient country and the United States.

## GOVERNMENT SPENDING

While many improvements have been made in the budget-making process in the executive branch, Congress is still going at its job of making appropriations just about as it did 100 years ago.

As a result, congressional review will be slow and spotty. The government's fiscal year begins on July 1, but more often than not in recent times Congress hasn't been able to get through its cumbersome process until August or later, leaving government agencies operating without knowing what their budgets will be. Improvement of this situation has often been proposed, but so far little progress has been made.

The fact that this is an election year will speed things up somewhat, since all members of the House and more than a third of the senators will be in a hurry to get back to their home districts. But this in itself means that many details of the budget will get a very sketchy going-over.

## LABOR RELATIONS

Many thoughtful people would like to see labor law problems taken out of the political arena. As long as they remain in politics they are likely to cause controversy year after year. This sort of turmoil creates industrial unrest.

The important consideration is whether Congress will sufficiently ignore political pressures. Specifically, will there be revisions to protect neutral parties? Will employers,

for instance, be protected from pressures to take sides in disputes where they prefer to remain neutral? Will employees who don't want to join unions be given the protection they deserve? Will states receive authority to regulate strikes, picketing, boycotts, lockouts, and to enforce valid collective bargaining? Will citizens be allowed to bring such matters before agencies of their own state rather than Washington?

As these and numerous other vital Taft-Hartley issues confront Congress, earnest proponents of good labor relations hope for results that will meet the test of fair play for public, employers and employees.

## NATURAL RESOURCES

The natural gas utilities expect another banner year in 1954 as they plan to spend more than \$1,000,000,000 on new construction and in expanding facilities. Reserves of natural gas are more than ample to supply the increasing demand. Gas customers are served by a pipeline system nearly 400,000 miles long, which grows every day.

Principal factor limiting expansion may be the Phillips Petroleum Company case. The Natural Gas Act of 1939 authorized the Federal Power Commission to regulate interstate gas lines but not production and gathering operations. Certain gas-consuming states and cities tested Phillips' gas activities in the U. S. Court of Appeals, which decided that FPC must regulate oil and gas companies providing natural gas for interstate pipelines. The U. S. Supreme Court has refused to review the case.

The producing states and the petroleum industry will work for new legislation to exempt production and gathering from FPC regulation. Opposition will come from consuming areas which argue that regulation is necessary to insure lower delivery rates. If Congress fails to act, producing companies will try to avoid sales to interstate pipelines, turning as far as possible, to new markets in the rapidly expanding petrochemical industry.

## TAXATION

If you deal extensively with tax law, you can start the hard process of forgetting all the Internal Revenue

Code section number tags you have been using for years as short cuts to meaningful conversation. The revised code, if adopted—and there is much more than an even chance it will be—will ignore the existing numerical designations and group subject matter together under new numbers. It will be pure happenstance if any existing section retains its present number.

Of importance also to tax practitioners and businesses with foreign interests is the newest undertaking of Stanley S. Surrey, former Tax Legislative Counsel of the Treasury and now of the Harvard Law School. The new project contemplates analytical country-by-country reports describing and interpreting foreign tax laws and their administration.

## TRANSPORTATION

Watch for the following developments and problems in transportation in 1954:

Intensified carrier competition, caused by expected moderate drop in traffic and huge postwar increase in transport equipment.

Lively congressional activity. Strong pressure to increase federal highway aid. Concentration on passage of time-lag bill to require faster action by Interstate Commerce Commission in general revenue rate cases. Fight to increase ICC funds, especially for motor carrier safety work. Also possibility of increasing ICC authority over right to permit railroads to abandon hopelessly unprofitable intrastate passenger trains.

Labor problems must be faced. By railroads—tremendous wage and fringe benefit demands by Brotherhoods. By truckers—extensive secondary boycott activities by Teamsters. By water carriers—bickering among maritime unions.

State problems confront motor carriers. Truckers fear breakdown in state reciprocity agreements caused by differences over what methods to use for charging trucks for use of public highways. Buses hope experiments in New England to pay states in proportion to use of roads will succeed.

Commercial aviation remains as only commercial passenger carrier unaffected by postwar surge of automobile travel. Efforts will be made to require airlines to share cost of navigational aids with government.

# World's



PHOTO BY NOLAN PATTERSON

● *Scattered over four states and covering 1,900,000 acres, the Kern County Land Company runs an operation that makes the good earth yield upwards of \$24,000,000 year in, year out*

PULLING alongside a cornfield whose ten to 12 foot stalks could have been the pride of any county in Iowa, Carl Melcher, who rates as one of the country's champion farmers, hopped out of his car and studied with an appraising eye the fat, foot-long ears. This cornfield wasn't in Iowa, but in California's prodigious San Joaquin Valley, which isn't supposed to be corn country. But the number of ears on the stalk, and their size, and the glow in Mr. Melcher's eyes indicated that the hybrid corn his men were harvesting on an experimental basis meant another row crop was in the making, one that might yield returns as great per acre as "white gold," as the upper San Joaquin Valley farmers call their long staple cotton.

As general manager of what may be the world's most fabulous farming operation, Mr. Melcher is always on the lookout for a new field crop. Not

that he doesn't have plenty of them already—potatoes, hay, grain, sugar beets, in addition to cotton, to mention only a few that add up to the \$14,000,000 harvest each year, plus an additional \$10,000,000 from beef cattle sales. Mr. Melcher's job is making the good earth yield upwards of \$24,000,000, year in, year out. He does it under a system that enables a lot of independent enterprisers to make handsome returns, too.

As vice president and general manager of the Kern County Land Company, Mr. Melcher runs a farming operation that covers 1,900,000 acres scattered over four states—Oregon, California, Arizona, New Mexico—making it twice as large as Texas' famed King Ranch. In addition to field crops and hay, K.C.L.—to use the colloquial name for the company—runs an assembly line for producing meat and hides and fertilizers, with around 90,000 head of

cattle on the line all the time. But K.C.L.'s particular pride is the system of partnership farming in which some 200 so-called "small" farmers actually till the soil and harvest the crops, paying the company in kind, the share depending on whether the market price is up or down.

Twenty years ago, most of the 60,000 acres now in partnership farming were semiarid acreage used only for grazing. Under Mr. Melcher's drive, it has been transformed into high-yield row crop lands, level as a floor and watered by an extensive system of canals and more than 250 deep wells. The land has been transformed at a cost of around \$300 an acre. K.C.L. has spent more than \$10,000,000 to date, changing semidesert into crop land, and is bringing in 5,000 to 6,000 new acres each year. Eventually the company will have more than 100,000 acres under intensive cultivation.

# most fabulous farm

By FRANK J. TAYLOR

The partnership farming deal has worked out so profitably that there is a long line of applicants for the newly reclaimed acres, and most of the 200 partners likewise want more land if and when it is available. Mr. Melcher picks the company's farm partners solely on the basis of character and experience. A third of them were young veterans of World War II and of Korea, who came home without capital. They didn't need it. After K.C.L. set them up on a 100 acre farming venture, a deal that would have called for \$40,000 to \$50,000 had they been obliged to buy their own land, other doors of credit opened, too. As Assa Diamond, Bakersfield manager for the Bank of America, put it, "After the company has screened them, we consider them A-1 risks."

Kern County Land Company has been able to do this unusual job of reclaiming land and setting farmers up in business largely because of a lucky "black gold" discovery. Under the company's land, a score of oil pools have been tapped by 800 oil wells. Temporarily, the company's oil earnings exceed the value of the harvests from its lands, but John T. Pigott, who has just retired from the company's presidency, figures that the farms will pay dividends centuries after the oil wells are pumped dry. The board of directors and the new president, George G. Montgomery, share this view.

Back in 1940, when K.C.L. was mainly a producer of petroleum and range beef, Mr. Pigott employed Carl Melcher to survey the company's properties and suggest a way to make them yield more prodigiously. Mr. Melcher was well qualified. A practical farmer, he had just completed a gigantic assignment for Pacific States Savings and Loan Company, which found itself, during the depression, the unhappy owner of more than 400 farms on which too much money had been lent. Mr. Melcher got the farms back into production and into the hands of small farmers.

After studying K.C.L.'s problem, Mr. Melcher recommended diverting a part of the oil revenues each year to clearing the sagebrush, leveling the grazing lands, sinking deep water wells, and installing big



Mark Raney, K.C.L.'s agricultural superintendent, takes great interest in talking things over with the firm's farmer-partners.



A score of oil pools has been tapped under the company's land



Ranches have recreation rooms where workers gather to relax



Last year 35,000 acres of cotton averaged two bales to the acre



Feed is mixed and released by a system of push buttons

pumps. It was expensive reclamation, costing up to \$50,000 for a quarter section, and it called for some imagination to spend a fortune already in the bank on sagebrush acreage. But the K.C.L. directors bought the idea and hired Mr. Melcher to make it work. The venture has paid off. Every \$50 acre of sagebrush land converted to farms is now worth \$800 to \$1,000 per acre.

More important, Mr. Melcher's plan has made K.C.L. and its 200 farmer-partners outstanding producers of cotton, spuds, sugar beets, and hay, and demonstrated how big business can team up with little business to do what neither of them could have achieved alone.

The company traces its beginnings to the dreams of James B. Haggin, a Kentuckian who, in 1874, with Lloyd Tevis, a pioneer San Franciscan, founded a cattle empire in the upper San Joaquin Valley, where the Kern River, flowing out of the Sierra Nevada, poured its waters into Buena Vista Lake. In wet years the lake emptied into the San Joaquin River, and ultimately into San Francisco Bay. But most of the time the Kern River's floods spread out over a marshy delta east of Buena Vista Lake. Haggin and Tevis were quick to grasp possibilities under two federal reclamation acts, the Swamp Act which enabled pioneers to acquire lands cheap by agreeing to drain swamps, and a desert reclama-

tion act which encouraged them to bring irrigation waters to arid lands, thus transforming them into productive farms.

Haggin and Tevis accomplished both objectives with a system of canals. Tapping the Kern River above Bakersfield, they syphoned off its floods with ditches, which spread the waters on the semiarid desert to the west and north. This was simple irrigation at first, but it complied with the Swamp Act in that it drained overwet lands, and it turned deserts into productive lands. It set Haggin and Tevis up as land and cattle barons. This network of ditches has grown into an elaborate 800 mile canal system serving many other farms as well as K.C.L. lands. Thus K.C.L. operates some canals as a public utility. The canals not only irrigate thousands of acres; they rebuild the subterranean water level from which hundreds of pumps lift water to make crops flourish.

In 1890, when Haggin and Tevis held 375,000 acres in the San Joaquin Valley, they incorporated the Kern County Land Company which, until 1930, was owned almost entirely by the heirs of the founders. In the '30's its stock was offered to the public, and in 1948 it was listed on the New York Stock Exchange. After the first major oil pool discovery in 1936, the shares sold like hot cakes, with the result that today the company is owned by more than



*After the wagons are filled, they travel up and down the feeding lots dumping out the prepared food*

12,000 shareholders. Until 1936, the company was willing to sell land, notably in the productive Wasco and Shafter areas, where a colony of hardworking Mennonites settled and prospered. But after 1936, K.C.L. reversed its program. The company now parts with lands only for school sites or other public uses.

In addition to the 375,000 acre Poso, San Emidio, and Stockdale ranches in the San Joaquin Valley, K.C.L. has 780,000 acres in New Mexico, 670,000 in Arizona, and 150,000 acres in Oregon, and leases an additional 700,000 acres. Under Mr. Melcher's direction, the cattle ranches, with 900,000 head of Hereford cattle, have been meshed into an assembly line meat production operation that finishes 900 fat steers per week for the Los Angeles, San Francisco, and Bakersfield markets.

The far-flung Arizona, New Mexico, and Oregon holdings are desert grazing ranches, on which it takes a lot of acres to support a cow and a calf. On these breeding ranches K.C.L. has 37,000 cows and 2,500 bulls. Their sole purpose is to produce white-faced Hereford steers and enough heifers for replacement. The K.C.L. beef production line is so highly specialized that the ranches don't even rear their own bulls. Every year Parley Richins, the stocky, veteran manager of the beef operation, scouts the Hereford ranches of the Rocky Mountain area

and buys up to 500 young bulls. He also buys steers by the thousands, because even 37,000 cows can't produce all the feeders needed for the gigantic K.C.L. beef assembly line.

At nine months, when they weigh about 400 pounds, the steers are shipped to the Stockdale Ranch, five miles southwest of Bakersfield. Here they live the life of Riley, first in lush, irrigated grazing pastures, then in finishing pens. The 110 finishing pens hold 17,500 cattle at one time. By the time they enter these pens at 15 months, the steers have rounded out and weigh 800 pounds. During their last three or four months in the pens, they eat 30 pounds of finishing diet per day, and put on about three pounds of weight daily.

The feeding machine that enables 27 men to handle 17,500 cattle is a marvel of efficiency. Feed for the mixed diet is stored in four enormous holding bins and eight smaller silos. The minor food elements are fed into the mix from warehouses connected with the colossal "mixmaster" by moving belts. The nerve center of this amazing plant is a push-button board with a battery of flickering lights. By punching buttons, the operator releases the prescribed amounts of the food elements in a 40 item list ranging from barley, grain, and ground alfalfa to orange pulp, molasses, yeast, and vitamins. Dr. Al Tietze tests this feed daily to make sure it has the right propor-

tions of carbohydrates, proteins, sulphates, calcium, and a dozen other beef-making ingredients.

Moving belts deliver the food elements into a mixer-hopper which spews a gray, fluffy mass, resembling cooked wild rice in appearance, into trucks which spread it into troughs alongside the feeding pens. Twenty-four hours later, the food is transformed by nature's chemistry into three pounds of beef and 27 pounds of manure. The latter is no inconsiderable item; last year the Stockdale feeding pen yielded 35,000 tons of steer manure, which at \$3 a ton brought in \$105,000.

Every Monday morning Mr. Richins, or one of his assistants, holds a parley with the buyers for the big packers—Armour, Wilson, Swift, Cudahy—in Los Angeles. They agree what they will pay for K.C.L. beef that week, delivered to the truckers at the feeding pens. Every 1,000 pound steer is good for 650 pounds of beef and 350 pounds of hides and by-products. K.C.L. never holds cattle for better prices; the company is in the beef production business at the going market price, plus a premium for uniform high quality.

One of the side lines of the Stockdale Ranch is a 90 head dairy herd. The ranch produces a lot of milk, but doesn't sell a bottle of it. The milk, cream, and butter are delivered daily

*(Continued on page 90)*



## GSA OPENS DOOR TO SMALL BUSINESS

General Services Administrator Mansure promises savings of \$100,000,000 annually through simplified federal government purchasing, other economies

By ALAN L. OTTEN and CHARLES B. SEIB

IN A SMALL town in southern Illinois there is a carpenter-contractor who used to tack \$200 on the bill for every repair job he did for the federal government.

He said this was to pay the lawyer he needed to help him fill out the complicated 27 page contract each job required.

Now, there's a simple two-page contract which the carpenter can fill out himself, and his bills to Uncle Sam are \$200 smaller.

Not long ago, manufacturers in an industry doing millions of dollars of government business yearly had to work through a gentleman who had set himself up in a cozy Washington office and—for a fee—allocated all federal contracts in that industry.

Today the middleman is gone. The companies, to their amazement, deal directly with federal purchasing agents.

A few months back, employes from three federal agencies were occupying luxury space—31,407 square feet of it—in a Washington "park-at-your-desk" office building.

The government has now vacated those offices, and the workers are in government-owned space.

These are a few of the changes being made by a brisk, friendly Chicago businessman-politician named Edmund F. Mansure (pronounced "man sure") who has

taken over a mammoth procurement, management and housekeeping job as head of the government's General Services Administration.

Since he came to Washington last May, Mr. Mansure has been sweeping the dust out of long-forgotten federal corners.

He has shaken up a system under which, for one out of every five federal vouchers, processing cost exceeded the amount involved in the transaction. He has told influence peddlers to get out of town and is urging businessmen to use the direct approach in selling to the government.

He has simplified purchase specifications so that the "little fellow" can go after federal contracts with success.

He has decentralized his agency of 28,000 employes, giving unprecedented authority to field officials. He has declared war on a mountain of dead federal records.

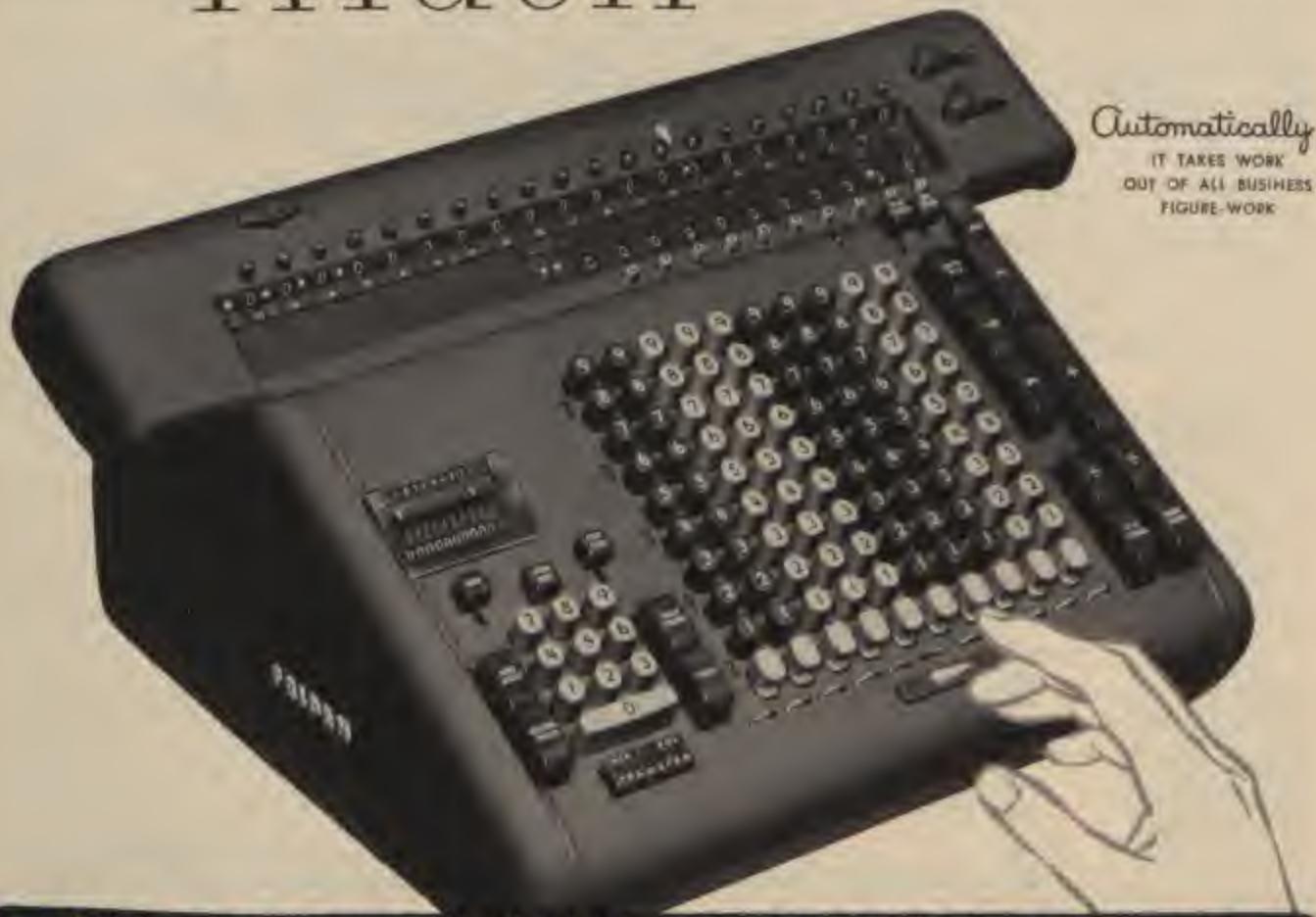
These and other changes, he has assured President Eisenhower, will save the taxpayers at least \$100,000,000 a year, and at the same time make for a smoother, more efficient governmental machine.

Mr. Mansure is probably the least publicized executive in the Eisenhower Administration, but he has an amazingly diversified job. (Continued on page 50)

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spends huge amounts of money and wields broad powers.

If he wanted to use all the power the law gives him, he could tell Cabinet officers just how much space they could have for their departments, prohibit them from buying except through him and otherwise take a large hand in their operation. Fortunately, he tries to win his ends by enlisting the cooperation of other officials.

As purchaser of most federal non-military items, Mr. Mansure is unquestionably the world's biggest buyer of civilian goods. His purchases range from paper clips—hundreds of tons of them yearly—to strategic materials for the defense stockpile. They include such varied items as parachutes, peanut butter, blow torches, egg beaters, paint, dictionaries, typewriters with Arabic keyboards, trucks and autos, musical instruments, aspirin, cranes, opium, American flags and Boy Scout knives.

Supplies for day-to-day government use are kept in 12 huge GSA depots—or "stores" as Mr. Mansure prefers to call them. Defense stockpile materials are warehoused in 323 undisclosed locations, including four vaults which contain things like narcotics, industrial diamonds and platinum.

The government's dead records are stored in huge records centers all across the country. Mr. Mansure figures that the dead paper he cares for would fill eight Pentagons or 11,450 freight cars, and would equal the tonnage of four Queen Elizabeth class liners.

As a housekeeper, Mr. Mansure operates, cleans and repairs some 5,000 government buildings—ranging from Washington departmental headquarters to tiny border control stations along the Rio Grande. In all, he cares for 2,750 acres of floor space. When the government needs more buildings he's generally in charge of building them, too.

To fill out his days, Mr. Mansure has these other jobs: He's boss of the National Archives, which preserves outstanding federal documents, issues a daily summary of all important government orders and is now helping former President Truman prepare his state papers. He directs disposal of World War II surplus property now worth about \$170,000,000. He runs auto, furniture and other types of repair shops. He's in charge of expanding U. S. production of key metals and manages a nickel plant in Cuba and is custodian of six magnesium plants in the United States.

The property he controls is worth about \$8,400,000,000 and he is now

spending about \$1,000,000,000 a year.

Mr. Mansure, compact, balding and 52 years old, brought to his job an outstanding background of business experience, public service and free enterprise Republicanism.

The business experience dates back to 1915, when, at 14, he went to work as a millboy in the textile factory of E. L. Mansure Company, a firm started and owned by his father. It ended when he retired as company president and chairman of the board last spring to take the GSA job. The firm, which produces upholstery fabrics, draperies and similar items, has about 1,000 employees and does a business, Mr. Mansure says, "exceeding \$5,000,000 a year."

His political experience dates back to 1930, when he and some friends started an independent citizens group in Chicago. He'd found that "if you expect to accomplish anything you have to be part of an organization. You can do a better job operating from inside than throwing bricks from the outside."

The independent group soon be-



came a Republican ward organization, and when it elected an alderman in a traditionally Democratic stronghold, Mr. Mansure's political star began to rise. Before long, he was holding such jobs as treasurer of the Republican State Central Committee and secretary and acting chairman of the party's state finance committee. He was extremely active in the Illinois campaigns to elect Everett Dirksen as senator in 1950 and Dwight Eisenhower as President in 1952.

Along with his business and political careers, Mr. Mansure was branching out in public service jobs under both Republican and Democratic state and city administrations. He served as chairman of the State Unemployment Board and of the 3,350 bed Chicago City Hospital and on various other state bodies. To top it off, he was president of the Illinois Manufacturers Association for a time.

Mr. Mansure reports that when he came to Washington, President Eisenhower told him just one thing—"use your judgment and do a job."

Presidential Assistant Sherman Adams and Budget Bureau Director Joseph Dodge were only slightly more specific. They told him the Administration wanted two things in GSA—"good management and economy."

Mr. Mansure had the advantage of being familiar with his duties as few new government officials are. Long before his nomination was announced, he had gone to the Chicago GSA office and told the manager, "teach me all there is to know about GSA." Almost every day for a month he attended this self-imposed school.

Although proud of what he has done, the new GSA head admits that many of the changes he has made and is trying to make are carry-throughs on projects his Democratic predecessor, Jess Larson, began.

"Mr. Mansure is a catalyst, the greatest I've ever seen," a close associate explains. "Many of these plans were dormant when he moved in. He sets things in motion. He gives everyone a shot in the arm. He tells people what he wants done and gets a progress report in ten days or 30 days and follows through until it is done."

Of course, Mr. Mansure has had some other advantages. He came into office with an administration keyed to decentralization and economy. He can count on backing from the White House and department heads. Moreover, deep budget cuts are making governmental departments happy to follow any suggestions from Mansure for stretching their appropriations.

Relaxing before the fireplace in the paneled office once occupied by Interior Secretary Harold Ickes, Mr. Mansure likes to talk about his new job and how he handles it. The thing that surprised him most about GSA was its tremendous reservoir of long-neglected ability.

"The trouble was," he says, "that nobody had been told to function. No one felt that he had power to make decisions, so he just passed the buck. I've changed that. My regional directors, for example, have full authority to make decisions. They must sink or swim on their own—and they love it. I get ideas from everybody. They're all thinking."

He declares he has no morale problems, largely because he's avoided wholesale firings. Despite a growing workload, he has cut his staff from 29,000 to 28,000—but he did it mostly by not filling vacancies resulting from normal turnover.

He hastens to add that he's doing nothing noble in keeping intact most of the pre-Eisenhower staff. Even if Civil Service regulations didn't keep



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him from firing at will, he explains, it would be sheer waste to get rid of many GSA workers. That's because they have highly specialized jobs, jobs which few people outside the government are equipped to handle.

"I'm a loyal party man," Mr. Mansure says. "But I'm also too practical and experienced to think I can go out and pick a man for a technical job just because he is a Republican. I follow two rules: We don't pick a man for a job he's not qualified for, and we don't create a job for anybody. On the other hand, if two men meet the requirements for a vacant job, and only one of them is a Republican, I would give weight to that fact."

What he insists upon, Mr. Mansure tells his staff, is wholehearted acceptance of the policies he lays down. "If a man can't accept our policies completely and willingly, he doesn't belong in an administrative position in GSA," he declares.

One of his major activities since coming to Washington has been an all-out war on those who claim they can grease the way for would-be government contractors. As a corollary, he is doing all he can to convince businessmen that the way to get a federal order is to work directly through the nearest GSA Business Service Center.

Mr. Mansure stresses that he has nothing against legitimate salesmen or commission agents. But he's gunning for "any individual who infers that he can 'handle' the people who administer the rules or that he is in a preferred category of persons who deal with us."

Should such types try to get their feet in the GSA doorway, he vows, "we will refuse to deal with them at all, and if their actions fall in the illegal sphere—as distinguished from the unethical—we will present the matter to the proper federal law enforcement agencies."

Businessmen must learn they can get federal business without using such intermediaries, Mr. Mansure declares. He also emphasizes that it's not necessary to "know somebody" in high government office to win contracts. Scarcely a day goes by, he says, that he isn't approached by someone who thinks his personal backing is needed to sew up a GSA order.

He recalls the public official who came to his office shortly after he took over GSA. "He said he'd come just to wish me well," Mr. Mansure relates. "I waited to find out his real purpose and after a lot of maneuvering it appeared. His law partner represented a food company and wanted to know how to get some government business. I told him he'd

just wasted a hell of a lot of his time and mine, that in his city there was a GSA Business Service Center and that all he had to do was to tell his partner's client to go there and the center would do a better job for him than I could do."

He adds that the food company eventually took his advice and made out fine.

Another time, the president of a major corporation wanted to see Mr. Mansure on a similar mission. This executive, who didn't know the GSA head personally, called on a Chicago business official who did. The Chicago man wrote Mr. Mansure that "this is a fine fellow and he'd like to have lunch with you." The same day the letter arrived, Mr. Mansure got a call from the White House with substantially the same message. The corporation president had been at work there, too.

"Why," Mr. Mansure explodes, "didn't he call me direct? I'd have been happy to talk to him, even though I couldn't have done him much good. That's the attitude I want to root out—the feeling that you can't do business with the government without an influential contact. We really want to make it as easy and inexpensive as possible to do business with us."

Mr. Mansure is making his personal motto—"Simplicity"—work overtime at GSA. He seems to take



greatest pride in pointing to places where, by simplification, he has saved money for the government and has increased efficiency.

A conspicuous example is his "standardization" program to reduce the tremendous variety of government purchases. This program has trimmed the types of bent wood chairs bought by GSA from 25 to one, the types of steel clothing lockers from 136 to ten and the types of steel desks from 54 to eight. The government used to buy 40 different kinds of waste baskets; now it buys only seven. The varieties of paperclips have been cut from ten to four, mirrors from 28 to three, blotting paper from 24 to five, and paper towels from 18 to seven.

Nails, sheets and pillowcases, soap dispensers, mimeograph paper, pencils, flashlights, electric fans, paint, tools, textiles—all these and many more have gotten or will get the standardization treatment.

"We can't calculate how much money we'll save by this program," Mr. Mansure says. "However, we do know that, on office furniture alone, we'll save \$2,700,000 each year out of the \$18,000,000 GSA has been spending in that field."

Another "standardization" stratagem is to use commercial items rather than to insist on unusual government specifications. For example, private industry generally sells a two-ounce bottle of ink. For some mysterious reason, the government customarily bought a one-and-three-quarter-ounce bottle. Firms supplying the government with ink had to install special equipment and face the prospect of having no market if the government should reject an order.

Naturally, they charged more money. The government, therefore, ended up paying more for the undersized bottle of ink than it would have had to pay for the standard two-ounce bottle. Mr. Mansure has ordered a switch to the two-ounce size.

Again, he found that specifications for some articles of office furniture required a certain gauge of metal which only one manufacturer was using.

"I'm not saying there was anything wrong with that," he explains, "but if standard gauge does the job just as well, why specify something that only one man can bid on? Whenever possible, we'll use standards that are widely used in private industry. A government agency wanting something special will have to prove special need."

Mr. Mansure says simplification and standardization save money by avoiding special tooling costs and by permitting larger-quantity purchases. Equally important, he says, "the little fellow, who can't tool up for special orders, can compete when we use the simpler, more general specifications."

He figures that simplification of standards, above-the-table methods of placing orders, the abbreviated contract form and other innovations will all help persuade the "little fellow" that government is interested in doing business with him.

Another change in the works is designed to make sure that the government gets full advantage of discounts for prompt payment for the things it buys. The practice has been to figure the low bid by taking into account the discount offered—



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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

even if it was unlikely that the government could pay within the time specified. For example, if one company bid \$100 less two per cent for payment in 30 days and another company bid \$105 less ten per cent for payment in ten days, the latter firm got the contract even though the government probably couldn't get the payment out within ten days. Thus, if the government took 20 days to pay, it would have to pay the full \$105, rather than the \$98 it would have paid if it had accepted the 30 day discount.

Mr. Mansure is insisting that bidding on each contract be on the basis of uniform discount terms which give the government a reasonable time in which to pay. If the standard industry terms do this, they will be accepted. Otherwise, GSA will set the terms.

Another application of the "simplicity" motto is the overhaul of the forms used to order materials, certify their receipt and okay bills for payment.

When he took office, Mr. Mansure was shocked to learn that more than 1,150,000 of the government's annual total of 5,000,000 purchase vouchers were for less than \$10—and that the cost of processing each of these exceeded its face value.

On his order, the government is now using a greatly simplified system for paying out small amounts of money—a system similar to the petty cash funds in private business. The new procedure saves money for the government and trouble for the worker who heretofore had to use a complicated set of forms to collect for bus, street car or taxi fares, postage, small repair bills and similar outlays.

A standard order-invoice-voucher form is also used now for purchases up to \$500 and for contract delivery orders. The new form, which requires only three or four copies, replaces nearly 50 different procurement forms, some of which needed as many as 23 separate copies.

Again, Mr. Mansure can't predict the saving, but he is convinced it will run into the millions. Not the least of the economies, he says, will come from the fact that the simplified paperwork will act as a brake on the accumulation of government dead records.

Always hanging over the GSA boss is the knowledge that the government is creating records faster than it is destroying them. In the 12 months ending June 30, 1953, the government destroyed 3,000,000 cubic feet of records. But in the same period it created 4,200,000 cubic feet of new records. Prodded by GSA, the civilian agencies held their

own in the records race for that year, destroying old ones as fast as they created new ones. But the military fell far behind.

Undaunted, Mr. Mansure presses constantly for further reduction in the quantity of records saved. His teams of experts are working on the files of many departments and agencies, weeding out expendable paper. He figures that every time a filing cabinet is emptied of old records and made available for new ones, the government saves not only floor space but the \$50 cost of a new cabinet.

In 1951, the government bought 97,000 filing cabinets. By fiscal 1953 this had been cut to 38,000 and Mr. Mansure has a goal of only 8,000 this fiscal year.

Another GSA economy drive is aimed at getting federal agencies to reduce their office space so the gov-



ernment can vacate many millions of square feet of relatively expensive offices it leases from private owners. Mr. Mansure appeared before a Cabinet meeting last summer to report that some departments were "dragging their feet" on this program and to ask for top-level backing.

He pointed out that the budget called for an 18 per cent cut in leased floor space and he suggested such radical measures as joint use of private offices, the sacrifice of conference tables by officials who didn't really need them and the use of partitioned cubicles instead of completely walled private offices.

He got results. Reorganization of offices, better space utilization, and, of course, the cutback in the number of workers has the space-saving program proceeding on schedule. In the Washington area alone, in the past few months, the government has given up leased space costing more than \$1,000,000 a year.

Mr. Mansure credits much of the success he has had at GSA to a steadfast policy of decentralization and delegation of responsibility.

One of his first acts was to issue to all staff and service heads an order, the heart of which was this sentence: "It is essential that operating functions and authorities now vested in the central office be delegated to the regions for performance, and the central office retain only those functions that are staff in nature."

"And," says one of his aides, "that was not a pious hope—that was an order."

Probably the major piece of unfinished business on the Mansure agenda is the taking over of procurement of all nonmilitary supplies for the Army, Navy and Air Force. This promises to become one of GSA's most important jobs. But there is no telling when the transfer will be completed.

Right now, GSA is doing most of the nonmilitary buying for the Air Force, some for the Navy and practically none for the Army.

The immediate problem, says Mr. Mansure, is to find out just what the services have on hand. No one knows exactly, but it's evident that they're heavily overstocked on many items.

Although Mr. Mansure won't discuss it, his efforts to take over buying for the military are meeting stiff resistance from some military men.

The demands of GSA leave Mr. Mansure little time for Washington's social whirl—but he doesn't mind. He and his attractive blonde wife don't particularly care for party going, which they find too strong a contrast to the kind of living they enjoy on their farm in Libertyville, Ill. There they and their friends live a casual, out-of-doors, blue-jeans existence.

One of their good friends and neighbors at Libertyville is Adlai Stevenson. The Mansures and Mr. Stevenson have adjoining farms.

"I admire him and I think he has tremendous ability," says Mr. Mansure of his neighbor. "But we differ completely on politics."

Looking upon his GSA job as a long-term assignment, Mr. Mansure and his wife are now scouting around for a farm near Washington where they can reproduce the pleasant life of Libertyville. He raises thoroughbred horses and Mrs. Mansure raises prize-winning Scotch terriers and collies on the Illinois farm.

They hope to find a place near the capital where they can do the same thing.

Mr. Mansure says he's definitely not the cocktail party type and even dislikes "sitting still long enough to play bridge." What he enjoys most is a quiet little dinner party or evening get-together with good friends and associates with whom he can discuss his plans for GSA. **END**

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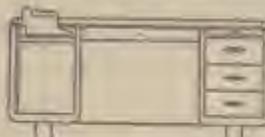
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## Atomic Victory Depends on the Navy

(Continued from page 38)

gases, will be capable of operating below surface indefinitely—limited only by the endurance of the crew.

On this score, the Navy has undertaken a series of studies to make the *Nautilus* more habitable than any submersible ever built. "Operation Hide-out," recently conducted at New London, Conn., by a volunteer crew, demonstrated that the hardy, disciplined submariners can live below surface for at least two months. The *Nautilus* and its sister submersibles to come will not only be comparatively comfortable; they will be radioactivity-proof. The atomic engine, like the atomic bomb, gives off deadly radioactive rays. The *Nautilus* is so shielded that even a luminous wrist watch would contribute radioactivity sufficient to be detected by the ship's monitoring system.

The most modern of our non-atomic submarines quickly swallow up their available fuel and oxygen supply when operating at top speed. The *Nautilus*, the *Sea Wolf*, and the atomic sub pack to follow will have no such difficulties. These craft will be able to run at terrific speeds for as long as necessary, above or below surface.

Atomic fission will give our under-seas fleet of tomorrow not only more power and speed, it will also cloak the submarine with a mantle of invisibility. The frequently surfacing, battery-powered submarine was fairly easy game for hunter planes. The more elusive snorkel submersi-

weapon as fantastic as those in the world of Buck Rogers, but one that is real, practical and—combined with equally fantastic weapons which we already have and are using—devastatingly destructive.

Our Navy has in operation three (nonatomic) submarines which fire guided missiles instead of torpedoes. One of these missiles, the "Regulus"—powered by rockets and turbojet engines—travels faster than conventional fighter-bombers and can hit targets 400 miles away.

The Regulus is but one of the missiles being developed for Navy use. Already we have discarded as obsolescent its predecessor—the Loon—an improved version of the World War II buzz bomb fired by the Germans from the Dutch coast into London. American scientists are working on guided missiles which race through the sky at speeds several times that of sound—missiles which, like the cigar-shaped Regulus, can be launched from the surface and directed from a submarine submerged except for its antennae. In merging the atomic-powered submarine with the supersonic guided missile, we will be wedding the split atom with the split second. Such a missile is capable of carrying devastating warheads to the target—hundreds of miles away.

Even before we learned how to utilize A-power in submarines, our Navy had made great strides in the tactical use of the underseas warships, such as killer (antisubmarine)



*Our Navy of tomorrow will have supersonic seaplanes, such as the jet Sea Dart, which can be refueled from subs as well as surface craft*

ble was detectable by radar the moment it raised its breathing tube above the water. So long as it stays deep below the surface the atomic sub is a phantom of the seas, for practical purposes invisible to radar and other detection devices.

The power, speed, and invisibility of the atom-powered sub gives us a

subs, radar-picket (plane or missile warning) subs, and attack (underwater ships of the line) subs, armed with newer, truer, target-homing torpedoes. Now that we have atomic-powered engines, there appears to be no end of possibilities in the future of the submarine.

For example, in World War II a



1954 Studebakers coming off production line

## Suppose an auto maker had to ask the government's permission to raise or lower the price of its cars . . .

Over the past 50 years, the automobile industry has grown to mammoth size—giving employment, directly and indirectly, to millions of people.

Its accomplishments have been the accomplishments of private management, free to make decisions in the best interests of customers, employees and stockholders—and to put those decisions into effect immediately.

For example, if a competitive situation makes advisable a reduction in price, an automobile manufacturer can announce that reduction over-night. Conversely, should material costs rise or a

general wage increase be granted, added operating expense can be offset by an immediate price rise.

Most businesses are able to operate with this freedom—with management assuming full responsibility for its decisions.

A notable exception is the railroad industry, where a decision to reduce or increase rates must be submitted to a regulatory commission. The railroads agree that reasonable regulation of railroad prices is in the public interest but, in recent years, decisions on general freight rate increases at the national level have taken an average of 350 days—a time lag that

has cost the railroads more than a billion dollars in lost revenues.

The railroads perform an important service for American business and industry. To do their job, they need and ask the basic freedom other businesses enjoy in our competitive economy. They ask that regulations be modernized to fit present day conditions.

The railroads operating in the highly populated and industrial East are especially burdened by the restrictions placed upon them by outmoded and unrealistic regulations... Eastern Railroad Presidents Conference, 143 Liberty Street, New York 6, New York.

conventional submarine carried Carlson's Raiders on a successful island assault against the Japanese. In the Korean conflict one of our subs landed 100 British Marines on a tunnel-plugging, rail-cutting raid behind Red lines. Surely these two isolated events herald the possibility—in the light of nuclear power—of phantom, underwater troop carriers.

To some farsighted Navy men the A-powered submarine has no end of possibilities. These men insist that a submersible which can carry and launch *pilotless* planes can carry and launch *piloted* planes.

The Japanese actually built during World War II a submarine twice the size of the *Nutilus* from which three small planes could be launched. Some Navy "dreamers" foresee a future when the atom-powered submersible carrier, capable of launching 100 warplanes, will be part of the fleet. I make no such prediction for the immediate future; but a dynamic Navy, whose very essence is flexibility, cannot afford to kick aside as "impossible" or "silly" any seemingly fantastic dream or notion. Only a few years ago cynics guffawed at the possibility of an atom-fueled fleet.

Yes, the submarine is definitely a vital element in our Navy of tomorrow. The trouble is that the sub's horizons are widening so fast that one hesitates to freeze a design for mass production lest it become obsolete in the making.

As the nuclear-powered submarine assumes greater importance in the fleet of the future, so does the atomic-powered carrier. It is the carrier task force which assures our Navy's control of the sea and air above. At sea there can be no separate air force and sea force. They must be integrated in one force as is our Navy. America's vaunted sea power is in reality air-sea-undersea-power.

Already our carriers are being equipped with the supersonic, jet-propelled Sky Rays. Atomic power will give the carriers and their striking task force unlimited reign to sweep the seas and concentrate at one point an unequalled mass of air-power. In the latter days of World War II, Task Force 38 threw 1,100 warplanes into one phase of the fighting. Our fleet of tomorrow will be capable of unleashing a far greater assault, launching jets four at a time.

With the advent of handier sized

atomic weapons, we may get some relief from the pressure to build bigger planes for bigger bombs, and therefore, bigger carriers.

We are already converting two cruisers, the *Boston* and the *Canberra*, into missile-firing men-of-war, by replacing the traditional gun turrets with launching platforms. We have transformed one battleship, the *Mississippi*, into a missile-testing ship. We have developed a series of missiles for varying purposes.

The German V1 and V2 buzz bombs were the only guided missiles used in World War II. By the time the Korean war broke out, the Navy

as well as surface craft. It can take off and land in a water-filled ditch—the simplest kind of airstrip, virtually indestructible from the air. Our fleet is already equipped with such a plane, the Sea Dart, jet propelled and almost wingless.

To defend our fleet and our shores from sudden onslaught by air, our Navy of tomorrow—even as does our Navy of today—will maintain vigil hundreds of miles away through a system of radar-equipped planes. And because the enemy can be expected to attack under the cover of storm and bad weather, our Navy of tomorrow—as does our Navy of today—will train and operate squadrons of all-weather jet fighter squadrons.

Tomorrow's Navy is in the making today, but as I have stressed, it will not become a completely atom-powered, missile-equipped fleet overnight. Such a move would be economically unsound, and technically unacceptable. We must transform our fleet from oil to atoms, from guns to missiles, slowly and carefully, experimenting, testing, analyzing as we go. We must make use of the ships we now have, through conversion and integration, and we must avoid plunging into a new building program only to discover we are acquiring a new stockpile of technologically obsolescent warships. We must convert slowly—but we must convert surely and steadily.

For our security's sake, we cannot afford to postpone or delay the conversion.

We Americans must not forget for one minute that Russia is capable of producing atomic power and every one of the other weapons we are seeking to make our own fleet faster and more powerful.

The Soviet Union today has the second largest fleet in the world, second only to our own.

The Soviet Union today is building more cruisers than all the NATO nations combined.

The Soviet Union today is operating between 250 and 350 submarines, and is known to be building more at a furious rate. The Russians seized the German sub fleet, captured a number of German submarine scientists, and literally dismantled the German sub-building yards and rebuilt them behind the Iron Curtain.

The Soviet Union today is working at top speed to support its massive armies and its massive air force with a navy which can challenge our



had developed its own special-purpose missile by converting the F6F Grumman Hellcats into television-controlled bombing missiles. The missile-planes, carrying television transmitters in their noses, relayed the picture of the target area to the mother plane or surface station as much as 500 miles away, and were guided straight into the target.

We have also developed anti-missile missiles which, together with improved firing power, will give our carrier task force a high impenetrable shield against enemy attack. Task Force 38 threw up an antiaircraft defense in the Pacific during World War II which was equal in firepower to the combined AA fire of all of Great Britain. Now our task forces will be even more formidable.

Our Navy of tomorrow will include a swifter-than-sound seaplane which, launched from a vessel or dropped over its side, can carry an atomic warhead hundreds of miles away. It can refuel at sea, from subs

own for control of the seas. The masters of the Kremlin have learned the lesson that Hitler ignored. No matter how powerful his panzer divisions and air armadas, Hitler could not win—and was eventually beaten—because he could not gain mastery of the seas. This the Kremlin knows.

Our dominant sea power permitted the Military Sea Transport Service to land 72,000,000 tons of arms, food, equipment and other material for a fighting force in Korea; Navy supremacy assured delivery by sea of 3,100 tactical aircraft needed by our Air Force in Korea—and in addition, 3,000,000 tons of aviation gasoline and jet fuel. The Navy seafarers lifted 4,750,000 men in Korean operations. The United Nations would never have been able to halt the Reds in Korea without American control of the seas.

In the past four years, the Navy carried 93,000,000 tons of cargo safely. For me to imagine that immense tonnage is like taking the 93,000,000 mile jaunt from the earth to the sun.

In World War II, the Navy—and American control of the seas—gave our carrier force the opportunity to sterilize the enemy's airpower at its home bases. Carrier planes shot down 12,000 enemy planes in World War II—three out of four over, or on, enemy airfields.

In World War III, should it come, one of the Navy's principal tasks will be to sterilize the enemy's plane and sub bases—the two potential sources of danger to our major coastal cities.

In the atomic age—in the age of the so-called "push button war"—the need for control of the seas is more imperative than ever. We could not fight a "push button war" for long without the ability to transport from points over the world the more than 50 rare and critical items, ranging from agar and antimony to vanadium and zinc, needed to make our weapons.

The American fleet is the lifeline of the free world. Europe well understands that the specter of starvation would be hanging over the continent were the North Atlantic Treaty Organization (NATO) countries to lose control of the Atlantic and Mediterranean. It is apparent that the struggle in southeast Asia would be hopeless were the free world denied the use of the seas.

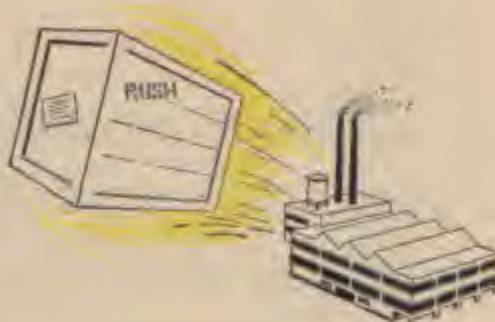
Loss of the sea—loss of American supremacy, the one sure margin we have today over our potential enemy—would mean the end of freedom in the world. Our Navy of tomorrow must be built fast enough and strong enough to prevent such a total disaster.

END

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# YEAR-ROUND HARD WORK WINS ELECTIONS

The congressional campaign committee is continuously pondering not only what candidates should say but where and when to say it

By NORMAN KUHNE

IN INDIANA a Republican challenger for a seat in Congress was running an uphill race against the incumbent Democrat. A series of wildcat strikes with resulting unemployment in the district made labor leaders unpopular locally.

Some weeks before the election a field man of the National Republican Congressional Committee called to check with his party's candidate. The G.O.P. contender was gloomy. The Democrat had served for several terms, taken a middle of the road course and had channeled considerable federal money into the district during the depression.

"About the only thing I've got in my favor," the Republican candidate said, "is this labor feeling and in that department my opponent is playing it cozy. I guess the only way I could win would be if John L. Lewis would come out and endorse him."

Returning to Committee headquarters in Washington the field man reported his findings to the chairman. Within a short time the chairman just happened to mention to several correspondents for Indiana newspapers that Mr. Lewis' views on the election in their state might make the papers. Upshot was a story for

the Hoosier press in which the then head of the CIO gave his blessing to several incumbent Democrats, including the congressman in question, as real friends of labor.

Whether or not John L.'s embrace proved fatal in this instance, the fact is the Republican won. He credited the G.O.P. Congressional Committee with pulling a rabbit out of the hat at precisely the right time.

Although modestly admitting they may pull occasional rabbits out of hats, Committee and staff members say that, for every election won by some master stroke, a hundred are won by plain hard work. Nor do the professionals who comprise the Committee hold that many votes are changed on election eve. The payoff generally comes from things done earlier.

Possibly that explains why as early as last September, 14 months before election time, Rep. Richard M. Simpson of Pennsylvania began to devote all available time to his job as Committee chairman.

History shows the political party out of power gains House seats in non-Presidential or off-year elections, a rule reversed this century only in 1934. "Dick Simpson of

Pennsylvania," as he's known to his colleagues, is determined that 1954 shall bring a second reversal.

Some of his predecessors in the Committee post have done fairly well in party councils. Joseph W. Martin, Jr., Speaker of the House; Leonard W. Hall, chairman of the Republican National Committee; and Charles A. Halleck, House Majority Leader, are among them.

Perhaps it was Mr. Simpson's talent for organization, or his penchant for hard work, or his ability to make and keep friends that won him the chairmanship early in 1953. Whatever the reason, he was drafted for the job as the unanimous choice of the Committee, which is composed of 38 members, one from each state having Republican representation in the House. (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, New Mexico, Rhode Island, South Carolina and Texas are not now represented.)

To those who think of politicians in back-slapping and "see what the boys in the back room will have" terms that choice would seem unlikely. Tall (6'2") and husky (210) Mr. Simpson looks as if he still might play tackle for Pop Warner as he did at Pitt in the '20's. A businessman (insurance and quarrying) before entering politics, he studied law at night school in Washington after having been elected to Congress in a special election in May, 1937. Colleagues call him a "born politician," perhaps an apt description since his father, Warren B. Simpson, who died in 1947, had served four years in the Pennsylvania legislature. Although only 53, Mr. Simpson's 16 years' service make him the dean of the Keystone State's 19 member G.O.P. delegation.

It was characteristic that Mr. Simpson, who averages a 12 hour day on congressional duties, should have taken a swing across the country right after Labor Day to check on organizational details for the election more than a year away. It also implied this November's race will be no shoo-in for those seeking to "man the dike for Ike."

"If you want to sum up the problem," Chairman Simpson says, "here are some figures. When the Eighty-third Congress convened (in January, 1953) we had 221 seats, the Democrats had 213 and there was one Independent. On that basis a change in five seats would mean change in control of the House. Three of our seats are in Virginia, and one in North Carolina, both states usually considered part of the Solid South. Two are in normally Democratic districts in Maryland."

To be sure, that accounts for only

till put to a roll call vote, how often he was absent from the floor, copies of the speeches he made in Congress, and press clippings of things he may have done elsewhere. You'll get a speech kit covering important campaign issues, a weekly newsletter covering events of political significance, a portfolio of finished layouts with mats and proofs for newspaper ads, a series of radio spots and scripts for local adaptation, television spots, suggestions for street interviews and information on taping them for broadcast use, information about movies and visual aid presentations.

As your campaign gets under way, the field man will pay you a return call. Do you need information on any local issues, such as farm problems, flood control, public power, housing? If so you'll be supplied with enough research data. What name speakers would be most helpful in your campaign—a Cabinet officer, a popular senator, some other party leader?

One speaker that the Committee never has to ask candidates about is the President. Every candidate wants the President to come into his district. If losers of congressional elections have one thing in common it's an alibi.

"If the President had just come into my district before the election, I'd have won hands down."

Next comes the troublesome matter of money. What is the condition of your war chest?

Unless you're one candidate in a hundred, you'll say you're short of money and, in fact, that some financial assistance from the Committee is imperative.

"There aren't many candidates who don't say during a campaign that with just another \$5,000 or \$10,000 they'd be a cinch to win and that without it, they'll be sunk," according to Committee aides. "We hear that every election."

Because the Committee has limited funds—it gets a lump sum budget from the Republican National Finance Committee for each campaign, the amount geared to the condition of the party treasury—the wise allocation of campaign money is especially important. The total available ranges between \$250,000 and \$600,000, which means spreading it thin.

"In some districts—Boston, New York or Chicago—we could spend our entire budget in a single district and never unseat a Democrat, barring some miracle. In other districts a few thousand dollars for the right things at the right time might turn the trick," Chairman Simpson points out.

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mine where the dollar will bring the best return? There's no one answer. In some districts, notably in Ohio and in Nebraska, where local organizations are well set up and function efficiently, recommendations of local leaders carry considerable weight. In other states the Committee relies on information from its field men and from the Committee member for that state. Elsewhere the Committee has to play things more or less by ear. However, over the years the members and the staff have acquired a sixth sense based on experience.

"If a candidate uses his funds for a new car instead of for his campaign, we quickly learn about it. We file such information for future reference. Some of our men always run scared. Year after year they tell us things are desperate and year after year they win by big margins. On the other hand, if a man who's never sent out an SOS in the past tells us he's in trouble, it probably means that he needs help badly."

That's not to imply that the Committee reserves its help for probable winners. Neither Republicans nor Democrats expect to win off-year races in every district where they enter candidates. Both parties have their stalking horses. But even these have their function and are deserving of assistance. By running, they keep party organization functioning for potential payoffs in Presidential years.

In addition to reports from local organizations, field men and candidates, the Committee gathers considerable data of its own—the results of past elections broken down by counties and sometimes even by precincts, local issues in all parts of the country, population changes, the caliber of candidates and opposition candidates, and so on.

Committee files contain more facts about every congressional district than are known by local residents. The population of the district, racial origin of the inhabitants, number of foreign born, number of farmers, of factory workers, of businessmen, the important industries, the important crops, all are catalogued for instant reference.

How is this information used? In 1920, for example, knowing Irish sentiment, the G.O.P. campaigned on the League of Nations issue, playing up England's five votes, and won in a number of northern urban districts normally Democratic. In areas where local industries are affected by imports, say Swiss watches, the candidate may stress tariffs to good advantage.

Keeping incumbent Republicans in is just as much a part of the Committee's job as unseating Democrats.

Many of its year-round activities are geared to that end. Does the senior class of Hometown High School visit the congressman on its eastern vacation trip to Washington? If so, the Committee's photographer is on hand to get a picture for the *Hometown Gazette*. Does the congressman make a telling speech on an important issue? If so, the Committee's publicity staff sees to it that the press associations and correspondents for the state newspapers get copies.

Some years ago a congressman from a rural district told a Committee member he had no tuxedo to wear to a formal dinner.

"Wonderful," he was told. "Go down and rent one and we'll get out a story about your going to dinner



in a rented tux. Most of the farmers in your district have probably never seen a tux, except in pictures. The fact that you don't own one will convince them you're still a home boy at heart."

This publicity gimmick proved so popular the congressman used it repeatedly—even made campaign speeches about it. Now a member of the Senate, he was somewhat irked when he read that Ambassador Chester Bowles had arrived in India without striped pants and made the papers with a story that he had to borrow a pair from the Italian ambassador.

"That's a Democrat for you—even steals your publicity stunts," he remarked.

The full-time staff of the Committee numbers about 25, including clerks and stenographers. There are specialized departments for research and statistics, publicity, administration and finance, and field operations.

In addition to other duties, field operations men have an important morale function. Two years ago one candidate was running a lonely race. The local party organization was shot with factionalism. Neither faction was helping him, his campaign was bogging down and he was ready to give up.

Then a field man paid a periodic

visit. The fact someone from the party's national organization was taking an interest in him and his problems gave the candidate and his staff a much needed shot in the arm. The warring factions were persuaded to bury the hatchet temporarily. The lagging campaign regained its momentum and ended in victory.

The Committee and its staff stresses with local organization leaders the importance of having well trained election day watchers and challengers. There is good reason for this. A Committee representative was in a polling place during a special election in Kentucky, and chatting with the woman who was the Republican watcher. Soon her Democratic counterpart took a handful of ballots into a voting booth.

"Where's he going with all those ballots?" asked the puzzled Committee representative.

"Oh, he's just going to cast votes for the people who called up and said they couldn't get down in person," the woman rejoined. "He does that every election."

Claiming no self-appointed sainthood, members of the Committee concede there may be a few cases where an extra Republican ballot or two has found its way into some ballot box.

Between election years much of the basic research essential to successful campaigns is carried on. In a given district did the party gain or lose in the last election? If the vote changed materially what was the reason? Much as a football team looks at the movies of the past Saturday's game, the Committee goes over the plays in the game of politics. What kind of a campaign did the candidate put on—what issues did he stress? Would it be a good idea to put emphasis on the same issues or find some new ones? Was the candidate



uniformly strong or weak throughout the district or were only certain counties or certain communities the trouble spots and what kind of special attention should they get next time? These are just some of the questions the Committee tries to answer.

Politics being what it is the Committee is constantly on the lookout for ammunition to use against the opposition. The contretemps involving Rep. Robert L. Condon, a California Democrat, and the Atomic



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Energy Commission, caused no tears to be shed at the Committee headquarters. Nor does the continuing friction between the northern and southern wings of the minority party, or the wounds opened up in the primary fight for the mayorship of New York City.

When a Republican makes a bobble, the Committee crosses its fingers. In most cases, it's better to sit tight. Often explanations, statements, denials or excuses serve to keep alive a story that otherwise might die and soon be forgotten. Not always, however. During the '30's a Republican of the individualist school was seeking re-election in Wyoming. Thoroughly unsympathetic with the idea of continuing federal relief, he said folks ought rather to eat jack rabbits, as the early settlers in the territory had done when times were tough.

A newspaperman wrote up his "let 'em eat jack rabbits" remark. His Democratic opponent seized on the statement and had billboards all over the district plastered with the congressman's unfortunate remark. The Democrats won handily.

Without neglecting more fruitful territory, the Committee is eyeing the South as a vineyard for future cultivation. Eisenhower in 1952 and Hoover in 1928 both demonstrated that the Solid South can be cracked. With the right kind of groundwork, the crack may be widened. Indicative of the importance that the Com-



mittee puts on Dixie is the fact that one of its five vice-chairmen is William C. Wampler of Virginia. The others are Richard B. Wigglesworth of Massachusetts, Carl Hinshaw of California, Dewey Short of Missouri and Joseph P. O'Hara of Minnesota.

Will Chairman Simpson and the members of the Committee predict this November's outcome? Publicly they're unanimous. There's a rule among seasoned campaigners to claim everything and concede nothing until the final vote has been counted. "Of course we'll win."

Will they say the same thing in private conversation? Well, even in private nobody likes to suggest that he's not going to do a good job—and the Committee has the job of electing a Republican Congress. END

## **BIGGEST DEBT in the World**

(Continued from page 37)

And there is still another problem connected with debt reduction. People seem to have become less venturesome and more security conscious to the point where many of them would be lost if they had to invest in anything but "safe" government bonds. Moreover, many types of business are so restricted by law that they must invest large amounts of their capital in government bonds. Banks and insurance companies in particular would find themselves hard put to invest all their capital under present laws, if by some miracle the government debt suddenly ceased to exist.

Handling of the debt is one of the most urgent problems facing the Eisenhower Administration. For many years, our debt management has been on a catch-as-catch-can basis. With the debt zooming, the Treasury has been opportunistic, borrowing money where it could find it. The result has been a tremendous concentration of the debt in short-term securities, which come due and must be refinanced every few months with considerable attendant costs and headaches. When Treasury Secretary Humphrey took office, he found himself faced with about 40 per cent of the total debt—more than \$100,000,000,000 — either coming due within one year or payable on demand.

In the past year Treasury officials have made some efforts to shift part of the short-term debt into longer maturities. But because the debt has continued upward, they haven't been able to get very far away from the practices of their predecessors.

Before we can think about reducing the debt, or do much about improving its present poor distribution, we must first stop its steady upward climb.

Since increased debt is simply the mathematical result of spending more money than taxes bring in, the cure lies in balancing the budget through either lower government spending or higher taxes. Most people would prefer lower spending. Moreover, it is fairly obvious that Congress is in no mood to grant any over-all increases in taxes. Substantial reduction in government outlays seems to be the only logical first step in bringing the debt under control.

Even then, we'll have a long way to go before any other nation can challenge our claim as the greatest debtor in the world.

END

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## Warehousemen Chill Everything But Ideas

(Continued from page 33)

sors a research program designed "to advance the art of refrigerating commodities."

Ten years ago the industry set up the nonprofit Refrigeration Research Foundation which has advanced some \$250,000 in grants to universities and scientific groups to discover how to freeze things better. Already it has covered much ground in discovering how to reduce black spot in shrimp; how semifreezing improves the popping qualities of popcorn, and so forth. Now it is seeking solutions to other problems; for instance, how to concoct a frozen milk concentrate that will taste as if it came fresh from the cow.

A tour through the huge zero and subzero temperature freezing chambers of warehouses brings home the importance of the storage side of the business.

As you go through these freezer rooms—and then "warm up" in the comparatively temperate "cooler" chambers where the thermometer is way up around 32 to 40 degrees—you see towering stacks of commodities. There are frozen meat carcasses; fish, both packaged and frozen in the scaly state; oysters in gallon cans; frozen egg yolks (for the bakery and confectionery trade) in five-gallon drums; bales of hops (for beer); enough frozen fruit concentrates to float a sailboat; wood cased "longhorns" and "daisies" of Wisconsin cheese; horse meat for American canines; chicken livers, turkeys and pre-cooked meat pies; then such items as auto batteries, tulip bulbs and pharmaceuticals.

When you see it, you realize how refrigerated warehouses not only help to meet the formidable requirements of the traditionally well fed American public, but also solve pressing problems for producers and manufacturers. It takes no genius to figure out that, unless kept properly, foods spoil and many commodities in the noneating line deteriorate. By use of refrigerated space, producers can avoid the nightmare of dumping surplus food products at ruinous prices to prevent spoilage. Manufacturers—particularly those who make items in seasonal demand—can keep production going in slack seasons. This not only averts labor layoffs

but, by spreading production throughout the year, eliminates the mad and costly rushes to meet seasonal deadlines.

Basically, warehousemen are a serious-minded lot of businessmen. During business hours their conversation is sprinkled with references to cubic feet, temperature and humidity control. Their idea of light talk is a brisk exchange on methods of keeping cheese mites out of the cold rooms, or a good round robin on the latest technical paper—say, "Carbon Dioxide Prestorage Treatment in Relation to Control of Storage Scald of Apples," or "Influence of Handling Practices and Different Storage Conditions on the Behavior of Texas Bermuda Onions in Refrigerated Storage."

foreman, not knowing it was there, tripped over it.

The prize story, however, is the one that Jack Meagher, veteran general manager of Baltimore's Merchants Terminal Corporation, tells about the time they almost turned the night watchman's hair white. Some friend of the boss had shot a 400 pound black bear. It's always something of a nuisance for warehousemen to handle these special noncommercial jobs, so Mr. Meagher decided they might as well have some fun with the bear. He and George Dittrich, the superintendent, who knows as much about freezing and storing as any man in the country, had the animal braced so it would be frozen in a menacing position—on its hind legs as if ready to pounce, with eyes and mouth open.

In addition to the general conversion from "coolers" to "freezers," there are other significant trends in warehousing. If located centrally in

big cities, where real estate is costly, warehouses must be built in multiple stories. This calls for elevators and more manpower, and the unloading of huge trucks creates acute traffic problems. Today, most new warehouses are being built on the outskirts of the cities, or even in nearby suburbs, where there is plenty of room for trucks and railroad sidings. They are high-ceilinged, sprawling, one-story affairs. Recently, a shrewd businessman named Fred F. Alford built "the world's largest refrigerated warehouse," covering 17 acres—in Dallas, Texas, of course. It contains 15,000,000 cubic feet of storage room of which 8,500,000 cubic feet is refrigerated.

The place is so mammoth that Mr. Alford has rigged up a sightseeing trailer, pulled by a fork-lift truck, to take visitors on tours of its interior.

One of the advantages of the new-type, one-story buildings is that no elevators are needed, and a high degree of mechanization is possible. In fact, the warehouse industry has taken over and advanced the so-called "palletization" method successfully used by military supply personnel during World War II. Pallets are small wooden platforms on which approximately a ton of commodities can be stacked. They contain grooves into which the lifting mechanism of fork-lift trucks slide. With a small truck, a skilled operator can pick up a one-ton pallet and, in a matter of seconds, stack it



"Do you want to take it with you or shall I send it direct to the Exchange Department?"

Still, when the day's work is done, warehousemen turn to lighter shop talk and give out with yarns on the less formal side of the freezer chambers.

In Jersey City, officials of the gigantic Harborside Terminal have a frozen fish which has been knocking around since 1931. It's named after a departed vice president, and they use it as a doorstop in one of the freezer rooms. Out in Chicago, Walter L. Massey, president of Western Refrigerating Company, tells you with a straight face of the time his foreman, Mike Dermody, sprained his ankle on a mountain lion.

It seems that Mr. Massey had agreed to freeze and store the critter for a huntsman friend of his, and the

eight feet above the floor. With a somewhat larger truck, the same man can boost three pallets, weighing 6,000 pounds in all, and, for good measure, can place a fourth pallet on top of them, making a stack 16 feet high.

In Baltimore, an outstanding example of multistoried warehouse operation is the original Merchants Terminal warehouse, an 11 story building now 24 years old. It does a thriving business, especially with its three blast tunnels capable of freezing nearly 250,000 pounds of meat and poultry daily.

But the Baltimore operators, shrewdly foreseeing the day when inescapable metropolitan problems may take away the play from centrally located, multistoried terminals, recently have opened two ultra-modern one-story warehouses, each of more than 2,000,000 cubic feet capacity. One, within the Baltimore city limits, is adjacent to railroad tracks but far enough out to provide ample parking facilities for the huge trucks which cart in and haul away the food. The other is at Landover, just outside of Washington.

The Landover plant, incidentally, offers proof that opportunities exist for young men in the warehouse business. Less than three years ago, Peter L. Cooper, an Army veteran and college graduate, started as Jack Meagher's apprentice at the Baltimore Merchants Terminal plant. Today, at the age of 29, he has moved up the ladder from a menial job on the checking platform to the general management of the Landover warehouse, a multi-million-dollar investment.

Despite the trend toward one-story buildings, industry leaders believe there always will be a place for the centrally located multistoried warehouse. One of the most versatile storehouses of this type is Harborside Terminal, located on the Jersey City side of the Hudson River. It is one of several mammoth warehouses which fill the staggering storage needs of New York City and environs.

Harborside has pier as well as rail and truck facilities, making it, according to its president, Charles E. Adams, "the only terminal in the United States where transoceanic ships unload directly into a warehouse."

Harborside is an E-shaped building, with eight stories—plus penthouses—for storage and offices. It handles both dry and refrigerated storage, with 4,000,000 of its total 27,000,000 cubic feet devoted to refrigerated storage. It is virtually a city in itself, with a population of 3,500 tenants and workers, a private



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police force, six restaurants, numerous display rooms and retail stores, several laboratories and assembly rooms, a factory for assembly of heavy machinery, and even two private avenues located under its roof.

At various times almost every conceivable item has been stored there, including brassieres, frozen fish, government surplus commodities, military supplies and strategic materials, candy, tanned hides, spices, Oriental rugs, briar wood for pipes, hogsheads of imported lemon juice, olive oil, matzoth, baseball bats and 12 ton slabs of Italian marble.

There also are various nonconventional types of warehouse construction. In Kansas City, for instance, Midwest Cold Storage and Ice Corporation has built a new multistoried "warehouse on stilts." The idea is that nothing will be stored on the lower floor in case of a repetition of the disastrous 1950 flood. In Coldspur, Kans., there is a "natural storage" refrigerated warehouse carved out of a limestone bed. This idea was adapted from the famous Atchison, Kans., cave which the Commodity Credit Corporation once used as a receptacle for part of its vast surpluses of eggs and other commodities. Army Ordnance now uses the Atchison cave for mothballing machine tools.

Then there are other warehouses which specialize in single commodities, such as the Winchester (Va.) Cold Storage Company, which takes nothing but apples. Its president, coincidentally, is a well known apple grower named Harry Flood Byrd, otherwise known as a United States senator from Virginia. Warehouseman Byrd was named "Man of the Year" by the American Warehousemen's Association in 1953.

Warehousemen are enthusiastic about the industry's research program. "The Refrigeration Research Foundation is performing an invaluable service, not only to the industry but to the nation," says R. M. Conner of Chicago, president of the National Association of Refrigerated Warehouses. The foundation's activities are directed from Colorado Springs headquarters by Helmut C. Diehl, known throughout the industry as "Dutch." Formerly with the Department of Agriculture, Mr. Diehl is a veteran in food research. He foresees unlimited opportunities for desirable developments in new and improved freezing techniques.

Right now, "the hottest items in frozen food possibilities," according to Mr. Diehl, are milk and bread. There has been considerable research by many sources, including the U. S. Department of Agriculture, on frozen milk and the foundation

now has launched its own program. "Admittedly," he says, "there is tremendous waste in the dairy industry. It would be a great boon if milk could be frozen and kept indefinitely without curdling or impairment of taste.

"The idea of little six-ounce cans of milk concentrate, which the housewife could keep in her freezer, is intriguing. We actually have such cans. You shake them before opening, mix contents with three parts of water, and you have milk. Tastes good, too."

As Mr. Diehl and Agriculture Department experts will tell you, however, the frozen milk picks up a peculiar taste if kept too long, and there are other problems to be solved before it can be offered to the housewife as a completely satisfactory substitute for the bottled product of the cow. While the convenience factor eventually may make frozen milk attractive for home use, the big possibilities are felt to lie in ice cream and baked goods manufacture.

The British, incidentally, are try-



ing a similar experiment with a canned frozen beer concentrate, which is somewhat of an anomaly, since Britons traditionally drink their beer warm. Mr. Diehl can't figure out the economic advantage of frozen beer, unless it is to save storage space. "The French," he warns darkly, "ran into a lot of trouble a few years ago when they tried to palm off frozen wine concentrates on their soldiers."

Frozen bread is closer at hand—in fact, it already has been marketed in various cities by such quality bread manufacturers as Arnold and Pepperidge. "The big problem with bread, of course, is staling," Mr. Diehl points out. "Enough stale bread is wasted in the United States annually to feed the city of Philadelphia for one year." Those stale loaves returned by the grocer to the baker help drive up the price of bread.

Experiments so far have established that bread, particularly that which has a high-protein content, will keep well if quick-frozen and kept at zero or lower temperature. The immediate goal is to push up the potential storage time to at least

one year. Arnold Bakers has its own ambitious research program under way for better frozen bread.

Incidentally, Mr. Diehl is full of helpful hints for the housewife. "Try keeping your daily supply of coffee in the icebox and it won't go stale," he suggests. "If you buy coffee in quantity, put the extra bags, well wrapped, in the freezer, and you can keep it for months. Spices and dried fruits also do fine in the refrigerator."

On the larger scale, Research Director Diehl enthusiastically reviews the progress made by the foundation in ten years. "We've learned much about prolonging the life of citrus fruits through cold storage," he says. "In the candy field, 'sugar bloom' in chocolate is a thing of the past. Our chicken and turkey techniques have advanced enormously, and we know that wet freezing of shrimp cuts down the incidence of dread 'black spot' — nontoxic, but unsightly. We've added to the shelf life of batteries through cold storage."

Continuing, the research director points out there is no dearth of fields to conquer. "We've never been able to have a quick-frozen salad," he says, "because most of the usual ingredients—all but carrots—fall apart when thawed. A frozen tomato, for instance, does dreadful things when it comes out of the freezer."

"We're also working on a project to extend the market life of fresh cranberries; it's a tough one, as cranberries will choke themselves to death on their own gases if you store them at lower than 32 degrees."

Thus, the industry not only is keeping its capacious storerooms busy by offering improved services, but it is looking to the future by pioneering new avenues which, in turn, may result in better and more varied products in the home freezer.

There's rarely a relaxed moment in the trade, for some problem constantly is arising. Currently, the industry's No. 1 bugaboo is the prospect of irradiated foods. Scientists are working on ways of blasting all the microorganisms out of perishable foods with atomic rays. If this can be done, atom-sprayed meats and vegetables presumably can be kept on your shelf indefinitely without ever having to go into the icebox. Some worriers in the warehouse industry fret about this technological threat, but it doesn't bother Bill Dalton of the National Association of Refrigerated Warehouses. "Why," says Mr. Dalton, "if they ever get this stuff, we'll just turn around and sell the irradiated boys space in our warehouses on the theory that cold irradiated products are better. The atom pile will never replace the icebox."

END

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# NOISE

# *aviation's*

AVIATION leaders look upon headaches of the past with nostalgia. There's a new and throbbing pain now. It's spelled "decibel." Decibel is a measure of noise. And noise is what's bothering the experts.

The din of complaints grows daily as airplanes get bigger and engines more powerful, and as air traffic increases. National Airport in Washington, for example, has as many as 17,000 landings and take-offs a month, and Chicago Midway Airport, the nation's busiest, has up to 27,000.

"There's no doubt," says a top Civil Aeronautics Administration official, "public irritation with aircraft noises threatens, for the first time since flight began, to undermine public support of aviation."

CAA Administrator F. B. Lee says flatly, "It's one of the industry's most crucial problems."

What's being done to muffle the noise? Plenty. Flight traffic into and out of airports is closely controlled. Runways are now being built so that take-offs and landings follow paths away from populated areas and traffic patterns are directed to cause the least noise possible near dwellings.

The National Aviation Noise Reduction Committee, formed by the CAA, with the administrator as chairman, has urged airplane manufacturers to reduce sound on existing and future airplanes. Plane makers are seeking ways to comply.

Industry officials will hazard no guess as to the total amount being spent on noise-reduction experiments. But it's astonishing. Engine manufacturers are also devoting huge sums to noise abatement in developing engines for the future. The Air Force and Navy are spending large appropriations for research on medical aspects of noise.

Meanwhile, public resentment is high and still climbing. The mayor of a midwest town says:

"When we really want a turnout at some town meeting we put a discussion of aircraft noise on the agenda."

There's a military jet field near his town, plus a small but busy commercial airport.

It all adds up to a staggering problem of public relations involving communities, industries, federal-state jurisdiction and national defense.

Recently a representative of a British firm which makes jet airliners went to officials of a large eastern international airport to make arrangements for one of the planes to be exhibited on the field. He half expected trouble because the British are up to their ears in the noise ruckus, too. He got it. The cold-eyed officials asked him one question:

"What engines does your plane have?"

When he told them, they huddled and did some rapid figuring. Then one of them said to him:

"That power would put out more than 130 decibels. I'm sorry, but you can't bring that ship here."

They explained that residents in the area were circulating petitions to close the airport because of noise. If the big jet were allowed to land it might add enough names to the petitions to close the field.

A grim preview of an even newer aspect of the

decibel dilemma was given spectators at the first public showing of the Air Force F-100 supersonic fighter last fall. Streaking over the terminal building at the desert airport of Palmdale, Calif., after a supersonic dive, the afterburner-equipped craft generated a boom that knocked one reporter sprawling off his chair, smashed plate glass, and cracked four-by-four frames.

The afterburner itself is an ear-splitting device installed on the tail pipes of many new-type jet engines. It provides emergency bursts of power by milking the last pound of thrust energy from the oxygen of the sucked-in air.

The boom is unpredictable. Its course is affected by weather conditions. It can bounce off clouds or be deflected by temperature inversions. Meanwhile no civil airplane existing or known to be planned can reach the supersonic speed at which booms occur.

The boom raises serious questions as to whether danger now is to be added to aviation's noise problem. At any rate medical men have become gravely concerned with the physical effects of aviation—and especially jet—noises. The Navy is making an intensive jet noise study for a special report to the American Medical Association next summer.

Navy noise experts have devised a table showing that ordinary conversation registers 50 decibels, an auto horn 90, and riveters working on a building next door 108 decibels. Beyond the 130 to 140 decibel range lies extreme discomfort and possibly a whole new galaxy of physical disabilities the nature of which is still stumping doctors.

Tests aboard carriers reveal that long exposure to excessively loud jet noise produces fatigue, nervous strain, nausea and even deterioration of human tissue. Air Force research shows similar findings.

Decibel-conscious Navy flight surgeons are under priority orders to "observe and report all symptoms of extra-auditory damage traceable to noise." Prostration, excessive body heating and extreme nervousness already have been certified in this group. Laboratory tests have proved that noise can kill rodents. A variation of shell shock may well emerge as an occupational hazard of jet flight. The impact of this on military flying is obvious although the average citizen will not be exposed to jet noise of sufficient intensity or for long enough periods to be in any danger. While noise levels in the neighborhood of 130 decibels are present in engine test cells, such high intensities rarely reach occupants of an airplane or observers on the ground. The noise level which does reach these people, however, often is high enough to be annoying.

While jet engines with afterburners now rate top billing on the decibel charts, their position already is threatened. Guided missiles make many times the noise of jets.

Industrially and medically, the outlook for solving the aircraft noise problem is dismal, if not alarming. American aviation is tackling the challenge with the energy, enthusiasm and imagination which has made it great. But the net result so far is little more than a

# *biggest headache*

hold-the-line status, with few clues to solving future problems.

Aviation officials produce some high-powered decibels of their own when discussing the celebrated Cedarhurst case, which should come to trial this spring. The verdict could drastically alter the future of commercial flying.

Early in 1952 the village of Cedarhurst, L. I., adopted an ordinance prohibiting, among other things, flight of aircraft below 1,000 feet while over the town. Cedarhurst is two miles from New York International Airport (Idlewild). Obviously, enforcement of the ban would paralyze vital airport operations.

On June 5, 1952, the Air Line Pilots Association, the Port of New York Authority, and ten scheduled airlines filed suit in the U. S. District Court for the Eastern District of New York, seeking to restrain Cedarhurst from enforcing the ordinance.

Because of the importance of this suit to civil aviation, the CAA and Civil Aeronautics Board intervened as plaintiffs, claiming that the ordinance conflicted with the Civil Air Regulations and that it attempted to regulate air commerce, a field pre-empted by the federal government.

The District Court granted a preliminary injunction halting enforcement. The legal battle could reach the Supreme Court. Meanwhile, similar ordinances passed in other communities, including Alexandria, Va., which is adjacent to Washington's National Airport, are not being enforced pending the outcome of the Cedarhurst case.

Capt. Eddie Rickenbacker, president of Eastern Air Lines and chairman of the National Air Transport Coordinating Committee, traces the current trouble back to the close of World War II. He says:

"During the war, residents near airports had patiently and patriotically refrained from protest against noise and hazard of military aircraft activities. But with the war's end, this tolerance did not carry over to fast-growing operations of aircraft engaged in civil pursuits."

Neither did it carry over to Air Force flying. When a B-36 crosses over the end of a runway and begins its climb, the big plane's six piston and four jet engines roar out to the tune of something like 40,000 horsepower. Beneath the flight path this produces a ground-level thunder that has been blamed as the cause of cracked plaster, falling china and sleepless nights.

At one Air Force training base public reaction has reached a point of red-hot indignation several times. More than 10,000 landings and take-offs are logged there every month. The ear-smashing noise of the B-47's, coupled with a fear psychosis fed by a series of aircraft crashes, produced a high-decibel din that reverberated in the Pentagon. Reports of kindred complaints have reached the Air Force from many of its bases.

The services and Captain Rickenbacker's NATCC have come up with similar operational procedures to put distance between noise and the public. Preferential

runways are used to put planes over the least populated areas adjoining fields. Incoming craft keep a minimum of 1,200 feet altitude until the last possible moment before the final approach. On take-off they climb to this minimum altitude as soon as possible and use power settings calculated to make the least racket.

On the ground, engine run-ups are in areas least troublesome from the noise viewpoint. Noise "barriers" have been constructed in some places to absorb sound. Engine test cell installations at airports have been given acoustical treatment.

General Electric's Cincinnati, Ohio, jet engine plant established a "sound patrol" to keep tab on noises coming from engine test cells. Plant technicians tour the nearby residential district in station wagons equipped with decibel counter, tape recorder, and two-way telephone, reporting noises above a comfortable level so that the racket can be toned down.

The Air Force is stressing an even more personal approach, with good results. Strategic Air Command pilots often visit complaining residents in person, apologizing for the racket and explaining the necessity for it. The Piasecki Helicopter Corporation near Philadelphia does the same.

Meanwhile, the services, industry and government aviation groups are sending speakers all over the country to try to explain away the noise problem wherever they can find an audience.

How much can be done to reduce the noise of jets is a matter of some dispute within the industry itself. M. M. Miller, an acoustical engineer with Douglas Aircraft Company, says:

"In the case of pure jet or rocket engines in flight, there is no known method of reducing noise and retaining power. Engines of greater thrust make more and more noise. Noise and power go hand in hand."

On the other hand, C. W. LaPierre, General Electric vice president and general manager of the aircraft gas turbine division, is more optimistic, saying:

"Some progress is being made toward reducing jet noise. Jet engines are so new that it's hard to predict just where development and research may lead in solving the actual noise problem. Improvements in combustion and in soundproofing have been made and show some promise."

"We are conscious of the problem, and I am confident that our engineers will be able to reduce the noise levels of future jet engines substantially. This reduction, coupled with increased general public knowledge of jet aircraft should tend to alleviate the current problem."

Public acceptance of some aircraft noise is what aviation spokesmen hope for and expect. After all, they reason, most big American industries cause some public annoyances.

If appears to boil down to a relatively simple compromise. If U. S. citizens want to enjoy the benefits of commercial aviation and be defended by airplanes they're just going to have to learn to live with those decibels.—DOUGLAS LARSEN

**END**

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## Trade: Russia's Real Secret Weapon

(Continued from page 25)

the USSR's troops are not to occupy Finnish soil, it can be used logically for wings of the Soviet tactical air command.

Soviet trade coercions in Finland have done much to place 43 procommunists in the parliament of 200. Similarly in Italy a substantial portion of the communist party's 35 per cent of the vote in the elections of last June can be attributed to Soviet trade practices.

Shipbuilding doldrums in Italy, a few years back, coincided with the Kremlin's need to enlarge its fleet of cargo vessels for sea and river traffic. It began buying some of them from Italy, while making sure that Italian communists shrilled slogans to the effect that it was the Soviet Union which had caused the shipyards to hum again.

A far more subtle trick of trade contributes its share to the fantastic situation in which half of the communist party's annual budget of 18,000,000,000 lire is financed by Italian employers. Here is how this particular trade-facet of the communist shell game is worked:

A "dummy" Italian corporation is formed by Italian communists, often with businessmen as fronts. Its purchasing officer will go to a manufacturer of cranes, say, and inform him that the new company has an order from behind the Iron Curtain, and cite specifications and other particulars. When final estimates are arrived at, the manufacturer is told that he can have the business if he shares 40 per cent of his profits as "commission" with the communist-run concern. If he agrees, as do many simply to keep their plants going, the cranes are delivered and the manufacturer reimbursed. He hands over the commission to the dummy firm which in turn siphons the money into the treasury of the communist party, less overhead costs.

The story of such sub rosa transactions is carefully leaked to the workers in the plant involved. It is picked up and carried by grapevine up and down Italy, especially by union officials of the communist-controlled *Confederazione Generale Italiana del Lavoro* (CGIL) which, with its 3,000,000 adherents, dominates the labor movement in steel, machinery, maritime, motors, telecommunications and other pivotal industries.

Incessantly repeated is the idea that it is through the Soviet Union's

orders, clandestine and, even more, out in the open, that the workers are employed and have bread and wine. This represents an exceptional triumph of myth over reality, since the Italo-Soviet trade has never amounted to more than five per cent of the total. Nevertheless, the illusion of the Soviet Union as job giver is fostered to such an extent that the Kremlin extracts a dollar in psychological value for a nickel's worth of business.

Together with Marxist indoctrination and the archaic attitudes of most Italian management about high profits and low wages, this delusion helps to explain communist voting strength in Turin, Milan, Naples, Rome. Moreover, the recent Italian trade agreements with Bulgaria (\$11,000,000) and with Red China (\$15,000,000) were not only hailed in the communist press as harbingers of security for the "toiling masses" but also encouraged business circles to believe Kremlin statements that Italian trade with the communist bloc will be doubled in the next few years.

Supporting this assumption was the USSR's action in the summer of 1952, tripling its trade with France under the terms of a pact stipulating that by next June France is to deliver to the Soviet Union six 5,000 ton merchant ships, 25 (20 to 40 ton) steam boilers, 200 portable and caterpillar cranes, 100,000 tons of steel plate, 3,000 tons of lead, and 3,000 tons of cork.

As in other cases, the Kremlin sweetened the deal by including a considerable quantity of consumer items such as silk fiber, fabrics, films, and citrus fruit. It wants to make available to some of its subjects a smidgen of amenity wares as promissory notes of more to come, and to beguile the consumer, as well as the capital goods, sector of the French economy into ever greater reliance upon communist trade.

France, as the political, economic and military crossroads of the Continent, is being wooed with special ardor. The Kremlin is determined to hamstring the European Defense Community which the French first proposed and on which they have been lately backing and filling.

To allay fears of Soviet aggression, to intensify fears of West Germany as potential conqueror and economic rival, the Kremlin is stressing the point that France can achieve internal stability, and resume its rightful place as a major world power only

by increasing its economic strength—and the best way to do that, says the Kremlin, is to enlarge trade with the communist sphere.

Once assured of regular growing markets to the East, France could concentrate on modernizing its economy instead of burdening itself with military outlays, unnecessary since the USSR seeks peace and "normalization" of commercial relations.

The lure of this spurious logic was reflected in the recent suggestion of M. Paul Reynaud, vice premier, that the West should relax its present restrictions on trade with communist areas. He asserted that this could be a first step toward relaxing international tensions generally, that it could lead to a five power conference (U. S., UK, USSR, France, China) in which Mao could demonstrate peaceful intentions by withdrawing aid to the Viet Minh rebels in Indochina where the war is draining France of \$1,000,000,000 a year.

The "you can do business with Malenkov and Mao" line is concurrently being pushed with the Bonn cabinet, Bundstag and German business groups. Soviet emissaries remind them of the complementary character of German and East European trade, determined by geography. Soviets claim that, unless Ruhr industry, for example, can re-establish its traditional trade bonds with what is now the Soviet bloc, the remarkable resurgence of the West German economy will falter, and will fade further if energies and funds and other resources are allocated to a hasty rearming; that diplomatic difficulties can be resolved once trade relations betoken good will on both sides. They say also that to industrialists with vision China also offers a great opportunity in the future; that already the Swiss, for instance, are selling ten per cent of their watch production to China.

In its manipulations, the Kremlin counts on one commodity above all: hope—the individual hope for a decent profit, a steady job, the national hope for prosperity, peace, power in world councils. As an answer to all such aspirations, it offers a vast revival of East-West trade.

Behind this maneuver is the effort to convert a major miscalculation into bloodless victory. Over recent years, the Kremlin has been straining to fuse the human and material resources of the USSR, its satellites and China into a military fortress and a single market, virtually self-sufficing. Since 1948 it has been steadily grafting East Germany, Poland, Hungary, Czechoslovakia, Bulgaria, Rumania, even Albania onto the Soviet economy.

In 1938, for instance, their trade

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collectively with the USSR was eight per cent but today is 80 per cent. And Red China, which as late as 1949 conducted 73 per cent of its trade with the free world, today does 74 per cent of it with the USSR and its puppets.

However, while the USSR was achieving prodigious advances in its own industrialization, it found that to industrialize the satellites and China it had to supply them with many more machines, materials, and other things than had been originally forecast.

Under its "mutual fraternal aid" program, Russia had to furnish Poland with an entire blooming mill for the Nowa Huta metallurgical combine; Albania with an entire cotton textile mill; Rumania with oil drilling rigs, pipeline trucks and other equipment for the Ploesti fields. And China was to be furnished with the credits, blueprints, machinery supplies, technicians and foremen for doubling the capacity of the tin smelter at Kakiu in Yusan Province, for building an oil refinery in Kansu, a steel plant at Tayeh, and electric power plants at Lanchow, Sian, and Taiyuan, as well as at Harbin and Darien in Manchuria.

The need to meet such commitments caused the USSR's fifth five year plan to develop unevenly, with some parts creaking, others missing. The Kremlin therefore in early 1951 decided that to synchronize its own industrialization schedules more effectively it would have to replenish what it was diverting to the satellites and China by importing more from the free world, notably western Europe.

But the free nations involved in Korea were refusing to sell to the communist bloc about 1,500 strategic items classified as war implements or war potentials. The NATO countries especially, while differing at times on how to define "strategic," on the whole cooperated in clamping down embargoes or selective trade controls.

What hurt the communists was that this ban was slowing, even if not stopping (they obtained a lot from their smuggling network), the momentum of the drive to industrialize and integrate all communist regions from east Berlin to Peiping into a gigantic economic heartland that eventually could rule the earth.

In view of this overriding aim, Korea became increasingly a subordinate consideration. A basic reason why the communists finally accepted the Korean truce terms, which were the same as they could have had months before, was that the Kremlin especially did not want any further delay or disruption in its

timetables: 1, to fill in the gaps of its own industrialization needs; 2, to cement all segments of the communist world into functional unity.

In moving to moderate the self-sufficiency isolation of the communist bloc, for a time, the Kremlin is making a virtue of necessity. It is preparing to round out its own requirements by trade methods that can transform various free nations into economic appendages.

Whether at the Moscow Economic Conference in April, 1952, or the International Chamber of Commerce meeting in Vienna in May of 1953, or the U.N. economic sessions in Geneva, it has adroitly focused on concrete business proposals. Absent are the old propaganda platitudes, except when occasion arises to accuse the U.S. of being the obstacle to resumption of healthy flourishing East-West trade, and a protectionist country which will never lower its tariffs long enough to be a dependable market for foreign wares.

The Kremlin also has sponsored in London, Paris, Brussels and elsewhere 17 committees on international trade development. They are composed of fellow-travelers, dupes, and some bona fide businessmen particularly hungry for customers. Since



the truce in Korea they have been agitating in public ever more loudly for the West to suspend its "economic blockade" of the communist sphere. Urging the same course in private are some very affluent and distinguished bankers and industrialists.

Both Moscow and Peiping have placed with some 700 firms in Western Europe alone a backlog of orders, running into the scores of millions, for antibiotics, chemicals, textiles, precision instruments, hardware, and every kind of industrial equipment. The bulk of these goods come under the strategic category. They cannot be shipped until governments lift present proscriptions and grant export licenses.

If there should be anything close to a "settlement" in Korea, and perhaps even before, the pressures to remove barriers to trade with the communist bloc are going to be irresistible.

Already in Japan these pressures have reached the explosive point. In

1952, for example, Japan sold \$1,275,000,000 abroad and bought \$2,000,000,000, leaving a trade deficit of \$725,000,000 at the very time the U. S. was spending \$1,000,000,000 a year in Japan for armaments and as an assembly area for U. S. armed forces. It was this infusion of U. S. funds that has kept the Japanese economy more or less on its feet. When these outlays taper off, the Nipponese economy will sag.

Hence the idea that "Japan must trade more with communist China—it is natural, it is inevitable" is affirmed by such figures as Hisaakira Kano, opulent spokesman for Japan's most powerful industrial group. His view is endorsed by an ever larger number of politicians and publicists who declare that, after all, China has been anti-Japanese, anti-British, anti-American, and will someday become anti-Russian.

The evidence, however, is that Moscow and Peiping are drawing closely together as they map a new communist "co-prosperity sphere" for Southeast Asia. Trade with Japan on a large scale is their first objective, not only for economic reasons but also to fray its political and military ties with the West. China wants Japanese steel, machinery, textiles, cameras, radios, virtually everything; the USSR wants its white arsenic, sulphur, and its optical wares, including superspeed aerial camera lenses. For some time Russia has been selling Japan some Sakhalin coking coal at one third the world price as a "loss leader."

The coal is not very good but the gesture helped the Soviet trade mission in Tokyo, anyway.

The Malenkov-Mao axis is also striving to become, step by step, the main purchaser of tin and rubber from Malaya, Indonesia, Thailand, and cotton from Pakistan. The USSR, in part to prove that it is industrially mature, is offering to provide them with machinery, supplies and guidance toward their own industrial development. And as ambassador to New Delhi, the Kremlin recently assigned M. A. Menshikov, former head of the Soviet Ministry of Trade, to gain a Soviet foothold in the Indian market.

A "business tycoon," Moscow model de luxe, Menshikov fumbled his first play when he offered the Nehru government the services of Russian managerial and technical specialists in putting up new plants and modernizing old ones. But Nehru and his Congress Party colleagues who have been slightly roused from their slumbers over Kremlin intentions did not want to have a corps of Russian communists around to stimulate and advise

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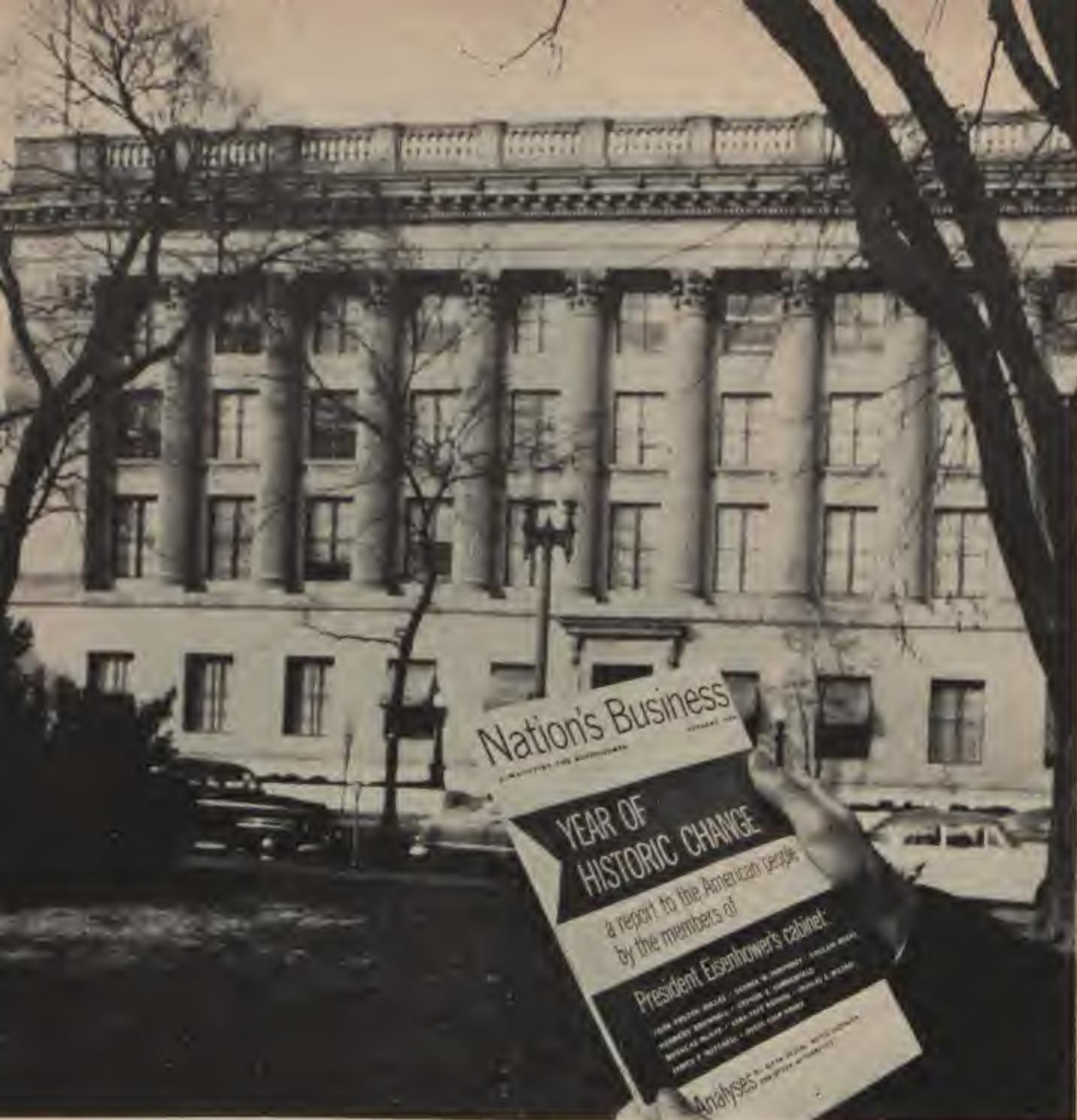
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**NATION'S BUSINESS**  
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India's communists, daily growing in number.

When the Nehru administration rejected Menshikov's proposal, he came up with a new lure, more difficult to refuse. He said that the USSR would supply equipment for cottage and heavy industry, and farm tools and other manufactures guaranteed to meet competitive prices that India has been paying for such goods to the UK and the U. S. This could be bought on the basis of long-term credit, backed by gold, thus bolstering the rupee and the foreign exchange position of the Reserve Bank of India.

In exchange, Menshikov declared, the USSR does not hanker after India's strategic ores, such as manganese, already earmarked for the West, but would buy jute, oil seed, chinchona, tea, and other products India is eager to sell to relieve a glut. And whenever the Tata Steel Works finds that it has some extra ingots for export, China would be glad to take them.

Meantime, in Asia, China acts as showcase and barker for the economic virtues of communist society. Every shipment of machinery it receives from the USSR gets P. T. Barnum publicity treatment in Singapore, Jakarta, Bangkok, Karachi, even Manila.

To reimburse the USSR for its aid in China's industrialization, and for providing 70 per cent of its war materiel in Korea, Peiping is exporting to its benefactor the one entity it has in ample surplus: human beings.

Today some 600,000 Chinese coolies are inside the USSR, or its satellites, helping to build railroads, highways, dams, and irrigation systems.

A new Chinese labor battalion of 100,000 was recently recruited for work in the East Siberian gold mines to increase the Soviet gold reserve of some \$6,000,000,000 which, for the first time on an elaborate scale, is being drawn on to promote the purposes of the trade drive.

The USSR is selling gold for pounds, francs, guilders and other western European currencies with which to buy capital goods for industry and consumer goods to carry out, at least in token fashion, the Malenkov pledge to lift living standards and to foster trade within the communist sphere.

During last November and December, for example, the British exchanged some \$100,000,000 in pounds for some 110 tons of Kremlin gold. This means that as the USSR buys that amount of British exports, the UK's industrial position is improved by sale of manufactures and its financial position improved by

having more of the yellow metal in the vault.

Important in such transactions are not the present totals in money or merchandise but what they portend, over the next few years, if—as may well happen—the British purchase of Soviet gold mounts ten times to \$1,000,000,000 a year, with the corresponding rise of UK-USSR trade supplemented by the pending revival of commerce with China through British interests in Hong Kong.

The Soviet-Sino alliance is likewise determined to fashion, over the years, a new single universal world market, under its control. Even now its communist "new world market" covers a fourth of the earth's surface and contains a third of its population. From this vast trading territory, it can dredge up almost any commodity it requires to tempt the free world into commercial arrangements that promote the communist conspiracy.

Communist foreign trade operations are centralized in a tremendous state monopoly with headquarters in Moscow and adept in the technique of the "switch deal"—i.e., if Britain, for example, should as part of its trade with the Soviet Union want some meat, very scarce in Russia, Poland can be directed to furnish ham. If France wants tungsten which Russia lacks for export, China is the source. If India wants harrows that Russia cannot spare, Czechoslovakia can send them. All this can be accomplished the more readily since communist leadership has no compunctions about sacrificing its people to attain "the larger end."

By thus exerting a magnetic pull upon the movement of manufactures and materials around the globe, the communists expect gradually to weaken our own economy and our political and military influence.

They are maneuvering to attack us at our most vulnerable point: foreign trade.

They think that as they preempt more and more of the world's trade, and spin new webs of production and exchange, our exports will shrink, while surpluses pile up in wheat, cotton, tobacco, machine tools, textiles, construction and agricultural equipment, trucks and everything else.

The communist plans for us are economic segregation, contraction, stagnation—in that order. They intend to acquire sufficient influence over raw material producing areas to get them to raise prices to U. S. industry and damage its competitive position in the world market. Eventually, the communists could deny to U. S. industry many crucial

metals, minerals, fibers, and so forth. The members of the Soviet policy planning staff who devised this whole trade tactic do not expect to gain their goal tomorrow, or next year, or the year following. Theirs is the method of steady erosion which will show significant results in the 1960's.

They have transferred to trade the attritions, the deceptions and the standards of war. In fact, trade as war pursued by other means is more than a Soviet variation of the Clausewitz theme of war as politics pursued by other means. Trade has emerged as the basic instrument of Soviet foreign policy. Malenkov is consolidating what Stalin acquired, and he seeks to gain by trade what Stalin failed to win.

END

## Wage Guarantees Enforce Idleness

(Continued from page 56)  
will be required to pay five years later.

More serious difficulties most likely will be encountered in the attempt to offset benefits received from state funds against the benefits promised by the union plan. Here there are questions both of law and public policy. It is not at all improbable that unemployment benefits of \$60, or even \$50 or \$40, a week, will look suspiciously like wages to many legislatures and the administrations of the state unemployment compensation systems. If this proves to be the case, they may well rule or legislate against allowing the offsets. It would then be necessary to amend the law.

There is doubtless some hope that employers will join with unions in urging such amendments to the law. But that would be a far-reaching step which should only be taken after full consideration of the consequences an action of this sort might entail. It has been the theory of compulsory unemployment insurance legislation in the United States and other countries that unemployment benefits should not be so high as to discourage looking for jobs and as to require large and increasing taxes on employment, which is the true source of funds for the unemployment reserves. Departure from this principle would be a grave decision.

The source of the greatest reduction in the employer's financial liability is the provision restricting the benefits to employees of three years or more of service. This would rule out of the scheme an unknown, but probably substantial, number of employees. More important still, those



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ruled out are those most likely to suffer frequent layoffs. There can be little question that their omission from the plan will substantially reduce its cost and that is the reason why this item is part of the proposal. On the other hand, their inclusion might make the plan so costly that there would be little chance of persuading employers to accept it.

Real as this dilemma is, the solution proposed by the Steel Workers promises to produce still greater evils and cannot be considered permanent. For the group with less than three years of service is already exposed to more frequent and longer unemployment by reason of prevailing seniority rules, under which the men of lesser service are, when business drops, the first to be laid off and the last to be hired. Thus they already bear the brunt of such unemployment as there is. If the Steel Workers' benefit plan is added to this condition, it would tend to divide a company's labor force into two parts, a permanent and a temporary force. The permanent force would benefit from both more regular employment and liberal payments when temporarily out of work. The full burden of unemployment would fall in all respects on the temporary force.

This would be a state of affairs which no policy, public or private, ought to countenance. Furthermore, its continuance would soon disrupt the union, dividing it into warring factions impelled by powerful, conflicting interests. It is not hard to foresee what will happen. The union will begin to whittle away at the size of this excepted group. Before many years all employees will have been covered by the guaranteed wage, excepting perhaps those with six months or less of service. In the long run the three-year service provision may prove no more effective a limitation on the employer's financial responsibility than the ten cent an hour maximum.

Over and above specific questions of this nature are large and still more fundamental problems. Increasing and then maintaining employment at high levels is an extraordinarily difficult and, at times, baffling undertaking. It requires unusual skill and initiative. It cannot be done in the absence of an adequate supply of capital funds. New markets, goods and services must constantly be discovered or invented and exploited. Consumers must be tempted by high quality commodities offered at the right price. No company can be successful, and hence expand its operations and employment, unless it can employ labor endowed with strong incentives to work and unless it can

control its costs of doing business. During the peak years of an inflationary boom, such requirements seem easy to acquire and to hold. But when things settle down, as they appear to be doing now, it becomes evident that employment can be maintained only under the most favorable circumstances.

Consequently, policies which impose uncertain but increasing burdens on employment and on taking risks are calculated to reduce, not increase, the number of jobs. We are entering an era in which it would appear necessary to offer business every possible incentive to expand its operations. Taxes on employment, which is what these guaranteed wage plans essentially are, can hardly be considered the incentives which American business so urgently needs. Facing the type of liability which such plans involve, a businessman might hesitate to hire additional workmen. This, as everyone knows, is a period of high wages and high



costs, the climax of 40 years in which factory hourly wages multiplied seven and a half times. Under these circumstances, the decision to raise costs, for purposes worthy or unworthy, would appear to be thoughtless and shortsighted.

Equally questionable is the decision to pay benefits of the magnitude scheduled in the Steel Workers' plan to men and women not working. This would not seem to be the proper and effective way to promote incentives and to encourage the mobility which has traditionally created new jobs and new careers. Already, in the union's plan of wage guarantees, certain types of employment which might be expected to disqualify a man for unemployment benefits are no longer considered employment. The parts of the plan dealing with disqualifications for benefit payments provide that an employee shall be disqualified for each day on which he has failed to register for work with a public employment office. This section goes on to say that "no employee shall be required to make an independent search for work in addition to such registration." Such a plan might well promote the unemployment it aims to eliminate. END

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By CRAIG THOMPSON

# \$2,000,000 TO RESCUE

IT WAS the kind of request that scientists dream about, but seldom get.

"We want to know if the oil is killing the oysters. If it isn't, find out what is." That's how the oil companies worded their request.

The reason for the request was a lawsuit, or, rather, a slew of them.

Oystermen, who had been tonging and dredging the coastal Louisiana water bottoms for many decades and gaining from their hard work an aggregate income of about \$3,000,000 a year, claimed that the oysters were

dying. They blamed the oil companies whose overwater drilling operations had grown, in a relatively few years, to an enormous \$400,000,000 annual production. Collectively and individually they sued, asking damages that totaled more than \$40,000,000. And that, in 1947, was when the Gulf Oil Corporation turned to Albert Collier, a marine biologist who has had long experience as a researcher in the Gulf of Mexico.

Gulf was by no means the only corporation sued. Others, including the Texas Company and big,

bustling Humble, the production unit of gigantic Standard of New Jersey, also were named in the \$40,000,000 worth of lawsuits. But all the defendants had the same reaction—they went to men of science with essentially the same request that Gulf made.

Thus, almost simultaneously, research projects sprang up at many places—Pensacola, Texas A. & M., Johns Hopkins University in Baltimore, the Mellon Institute in Pittsburgh—all dedicated to prying from the lowly, reluctant oyster the innermost secrets of its living, feeding and breeding habits.

Presently the men involved in the separate projects began to exchange information. The different researches started to take on the force of combined action. Now, after six years of the most meticulously recorded studies carried on at the combined cost that may well exceed \$2,000,000, the American oyster, or *Ostrea virginica* as it is technically known, might as well move into a department store window for all the privacy it has left.

Normally, the preparations for a lawsuit are carried out more or less in secrecy since each side usually hopes to spring a decisive surprise on the other. This case has been different. As their researches progressed, the scientists channeled a steady flow of reports into their technical journals. When completed and collected, these likely will constitute the most voluminous, exhaustive and authoritative study ever made of any species of marine life.

Whether the lawsuits ever come to trial—they have languished on the

*Oysters under a thick film of crude oil suffered no ill effects*



*When fishermen charged that offshore drilling was killing shellfish, the oil companies started a research program which could make mollusks as common as beef*

## OYSTERS

dockets for seven years now—these reports represent a \$2,000,000 gift by the oil industry to the oyster dredgers. For the facts they provide hardly could have been collected at less cost, and the oyster industry is too small and scattered to have raised so large an amount to get the information.

The information, however, will benefit oyster fishers from Maine to Mexico if, of course, they make use of it.

It has been estimated that four acres of suitable water bottom can be made to produce 36,000 pounds of oysters (net, after shucking) in three years, while the same area of dry land will, in a like period, produce only 700 pounds of dressed beef.

In short, it is possible to produce 51 times more oysters by edible weight than beef per acre in a world that has many acres of oyster land.

As matters now stand, the average American eats 125 pounds of beef for every pound of oysters he consumes, and even that low ratio amounts to a lot of oysters—about 1,090,000,000 a year. What might happen if oysters became even a mere ten times more plentiful than beef is something to give a man pause.

While a sizable percentage of people can take their oysters or leave 'em, a potential difficulty arises from the fact that, where oysters are concerned, the rest of mankind seems to be naturally divided into two opposite classes.

One is *ostreophagous* (an ancient word roughly signifying insatiable oyster eating) and the other is *ostreophobic*, or people who may

have eaten one oyster but never intend to eat another.

A man I know, who works in South America, gets home only once every two years or so and always takes his vacation in months that contain an R, is a good specimen of the *ostreophagous*.

As soon as he clears customs and gets his duffel stowed in a hotel room, he cabs down to New York's Washington Market for an oyster orgy. Lifting his fat, glistening victims from their newly opened shells and dunking each in a red, pepper-hot sauce, he will eat as many as six or seven dozen before satiety begins to glaze his eyes and slow his hand.

With him, such repletion is only a starter. The passage of his vacation is marked by the mounds of oyster shells he leaves in other people's kitchens.

In contrast, the *ostreophage* is adequately typified by a young lady laboratory assistant in the Mellon Institute in Pittsburgh. One day not long ago the chemist with whom she works received a bucketful of fresh oysters on which he was asked to make certain fact-finding experiments.

Before settling down to the relatively tedious task of dissection and analysis, he opened and ate a few, inviting his assistant to do likewise. This young woman had never before eaten an oyster and she approached it as tentatively, no doubt, as the first prehistoric man to try one. The first went down all right. Then, being of an inquisitive turn, she went to a reference book and this is what she read:

"Oyster, an edible bivalve mollusk usually eaten alive."

"Was that thing," she asked, turning a pronounced greenish color, "really alive?"

Assured that it probably was, she showed signs of sudden, acute discomfort and wordlessly dashed from the laboratory to a place where her turbulent stomach could quiet itself in solitude.

Thus, these two classes may be regarded as the poles of the difficulty, and the question is: In a world where it may be ten times easier to have a pound of oysters than a pound of beef, are the *ostreophobes* going to become *ostreophagous*? Or vice versa?

It is necessary first to understand that the meat the oyster-eater finds inside the oyster shell is far from being the simple blob of gray matter it seems.

On the contrary, it is a highly developed, complex organism. It has a heart that pumps a grayish fluid not unlike blood plasma, and gills, or lungs, where carbon dioxide is ex-

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tracted from this fluid and replaced by fresh oxygen taken from the water, in much the same manner that the lungs replenish the blood in the human body.

It also has a mouth, throat, stomach, liver and digestive tract, and a very fussy appetite.

The oyster feeds itself by pumping water between its gills, through extraordinary little mechanisms called the palps, and past its mouth which is located near the narrow, hinged end of the shell. The pumping is accomplished by the wavelike motion of millions of microscopic hairs called cilia, all beating in rhythm, and, considered purely as a water pump, the oyster is a little marvel. When healthy and hungry an oyster weighing two ounces can pump 40 quarts of water an hour—an equivalent of about 640 times its own weight—which compares pretty well with many man-made pumps.

After passing over the gills, the water flows between the palps which act as a highly selective filter. The palps have the capacity to strain from the water not only substances which might be injurious or poisonous, but also those which, while not necessarily harmful, are not wanted.

When the water is particularly dirty, the palps work overtime, kneading the rejected particles into a kind of gummy paste and expelling them over the side of the shell like a ribbon dentifrice squeezed from a flat-mouthed tube. But because of a well developed sense of selectivity, the palps do not filter out the food the oyster wants and needs, and thus the water that reaches the oyster's mouth contains the supply of plankton (microscopic living organisms) the oyster feeds on.

Because of the palps, the oyster can survive and even thrive in circumstances which at first glance would appear to be fatal.

To test this the investigating scientists built boxlike rafts so constructed that the wire enclosed bottoms would remain six or eight inches below the water line while the open tops were a similar distance above. Into the bottoms of these boxes, resting on the wire, they put a number of oysters and on the top of the water they floated varying amounts of crude oil, a concentrated pollution hundreds of times greater than any ever found in normal over-water oil operations.

Then the rafts were anchored at various places in waters where oysters grow naturally, and allowed to remain for months. Even under the thickest of the oil blankets the oysters not only survived, but what was more astonishing, begat little oysters that also survived.

*Ostrea virginica* is not like some European species which are truly bisexed, but it can apparently change its sex in the course of its life. This is, at least, the somewhat speculative belief of some of the investigating scientists, based on the discovery that most old oysters (their life expectancy is nine years) are females. The change, if there is a change, would appear to be mainly from male to female. But in any case, breeding among oysters is a cyclical, solitary business and apparently equally dangerous to both sexes.

Spawning occurs in May, June, July and August—the four R-less months during which oysters are not in season. During this period the oyster becomes visibly swollen with egg or sperm cells, as the sex may be, which it expels in tiny gray clouds by snapping its shell shut with a quick motion. It has been estimated that the female throws out upward of 50,000,000 eggs, but the numbers of sperm cells released by the male are too astronomical for even the

surface with a gummy exudation and then, turning on its side, plops one half of its shell in the gum. In a brief time this crystallizes into pure calcium carbonate. Barring disturbance by man, or one of its other predators, the oyster is fixed for life, and powerless to move again.

That all this could go on in the experimental rafts under a thick blanket of black, sulphur-stinking crude, was proof enough that oil and oysters will mix. But, since oil obviously did not kill oysters, the scientists then turned to finding out what did. As it developed, this was a multimillion dollar question.

The search for the answers led to extensive studies in chemistry, bacteriology, physiology and biology; to the analysis of countless samples of water taken at different times from different places; to large surveys of the shifting character of the earth's marginal crust, and from these to extremely minute measurements of the behavior of individual oysters.

It was necessary to devise an oyster-measuring machine. The experimental oysters were put in a tank and rigged so that a moving tape would record the hour and minute they opened or closed their shells. In addition, a special metering device was connected to the tank to measure the quantity of water the oyster pumped during its open period. By putting various samples of water from various areas in the tank and recording the oyster's reaction, it was possible to discover what it liked and disliked, and what it could not tolerate.

The oyster's shell, like the oyster itself, is quite a mechanism. It is hinged on the narrow end by a springlike ligament over which the oyster has no control. When an oyster relaxes, the shell opens automatically. But the oyster can close its shell at will by contracting a thumb-sized muscle called the adductor which grows out of the middle of its body and is attached to each half of its shell. The oyster is truly alive only when the shell is open, for it is only then that it eats, drinks, breathes, spawns or eliminates. But it can stay alive for long periods with its watertight shell firmly closed, living, like a bear in hibernation, off its own fat.

When an oyster's shell opens, there spreads over the shell's lip a thin layer of tissue called the mantle and though this contains no recognizable eyes, ears or mechanism of taste it nevertheless can perform the functions of all three. For within the mantle there is a rudimentary nervous system which connects with the adductor, and it is the mantle that tells the oyster when to clam up. Let



estimators. The union of the polliwog-shaped sperm with the triangular-shaped egg takes place while both float freely in the water.

For two or three weeks after growth begins, the oyster larva is a free-swimming organism that lives on the water's surface. At the end of that time, though it is still smaller than the diameter of an ordinary pencil, it has developed a tiny shell through the two halves of which it protrudes a rudderlike foot. At this stage an oyster is called a spat, for obvious reasons, but it has the instincts of maturity—it begins to seek a clean, cozy place in a suitable neighborhood where it can settle down.

Above all things the little oyster prefers to attach itself to the shell of a big one. For this reason an oyster bed can be established anywhere the water is congenial by first laying down a reef of empty shells, then sowing the reef with seed (any oyster two inches long or less is a seed oyster) and letting nature take its course.

Lacking a shell bed, the spat will settle on any hard surface above the mud line such as a concrete pier, a piece of brick, or even a discarded beer bottle.

After choosing a home the spat uses its protruding foot to smear the

a man walk between an open oyster and a sunlit window, and at the moment his shadow falls upon the oyster it will close. Let him tap, ever so gently, on the side of the tank, and the oyster closes as if panicked. Finally, let the water become deficient in a certain plant sugar and the oyster will refuse to pump at all.

The use of the word sugar to describe this substance may not be accurate, and is only provisional, since the scientists have not yet determined whether it is a true carbohydrate, or merely a compound which reacts like a carbohydrate to standard tests. But it has been isolated and concentrated, and its classification and synthesis are only a matter of time. Until then, sugar is as good a word to describe it as any other.

THE sugar appears to be put in the sea by growing marine plants. The quantity in a quart of sea water is almost infinitesimal, seldom amounting to more than 25 parts in 1,000,000. Even that minute amount not only varies from place to place, but from hour to hour, being most abundant shortly after midnight. For the oyster, this substance is not a true food, but a stimulant, a combination of sugar in the morning coffee and a cocktail before dinner.

Oysters are nearly always found in those marginal areas where the flow of fresh water from the land mingles with the salty sea. From this, it had long been believed that oysters could survive only in water that contains some salt, but not much.

The fact is that oysters can tolerate much higher and much lower concentrations of salt than had been supposed. They live where they do because it is there that the cool fresh water, combining with the warmer sea, provides the most favorable condition for the production of the sea-borne sugar from which they derive their appetite.

Oystermen long have believed that the oyster's deadliest enemies were conchs, drumfish, starfish and sponges, all of which are oyster predators. Three scientists, working at different places, all found a new one, and the deadliest of them all. It is a microscopic fungus, hitherto unknown but now called *Dermocystidium marinum*, which does to the tissues of an oyster about the same thing that athlete's foot does to those of a human.

It is remarkable, sometimes, how the hardheaded, strictly-from-Missouri scientists come along to put substance into folklore. For more than a century oyster fishers have



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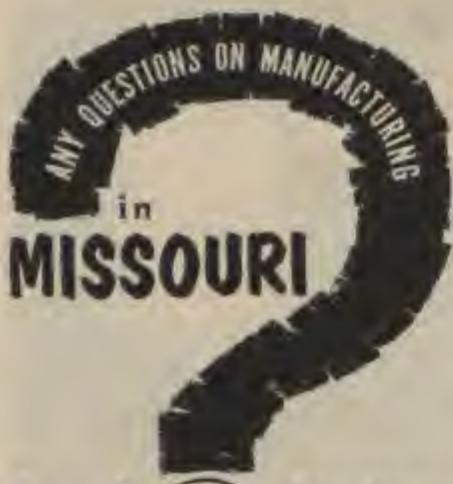
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talked about a mysterious sea creature which, sneaking up on the oyster, spread poison along the lip of the shell and prevented it from closing.

*Dermocystidium* is that killer. What the fungus does first is to attack the mantle, destroying the nervous system and relaxing the adductor muscle, so that the shell gapes open until some hungry sea creature, or the fast proliferating *Dermocystidia* themselves, devour the defenseless oyster.

But the most important fact about *Dermocystidia* is that they are most active in warm water. In cool water the oyster is not bothered much by them.

So, the oyster is killed by a critical temperature that governs three otherwise unrelated factors. It is in the hotter months that spawning occurs, and, for an oyster, spawning is a weakening thing. These are also the months that the temperature goes up, and the oyster's sugar requirements also go up, with the result that just when the oyster needs food most, it eats least for lack of the stuff that stimulates its appetite. The oyster therefore becomes weakest just at the time the warmth makes the *Dermocystidium* strongest, a fatal set of circumstances.

And it is not only in Louisiana

that oysters are disappearing. Fifty years ago, for instance, Maryland produced 15,000,000 bushels of choice oysters a year. Last year it produced less than 3,000,000.

There are two other factors at play, and each is too big for science, or men, to handle. The first is that the sea is rising. The second is that man, with his plows, saws, factories, flood control dams, and mighty levees has profoundly changed the character and course of the fresh water runoff.

Neither of these things can or will be stopped. Not even to save the oyster.

In view of these discoveries, the scientists naturally asked each other: If these things are true, how have the oysters survived at all?

In fact, the oyster's salvation does not necessarily depend on stopping them. By the tests now known, vast areas of suitable water can be found. But this means that the day when oysters may be ten times more plentiful than beef can come only if men work to bring it.

This may not be as quixotic a thing as it sounds. From what they tell us, it appears likely that the sea will go on rising until man himself is menaced. Saving the oyster now may teach us a trick or two that will be useful then.

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(Continued from page 45)  
to the several ranch headquarters, where the dairy products are issued to employees. Unmarried men consume theirs in the mess halls, served from spotless kitchens. Married employees take theirs home to the neat, modern cottages recently built by the company. Every single man on the ranches rates a room to himself in the neat, low dormitories which have replaced the old K.C.L. bunk houses.

Despite its efficient use of machinery, K.C.L. is still a big employer, with a payroll of close to 1,000 people, all of whom are covered by medical and life insurance and retirement plans. Nobody has invented a machine that takes the place of a cowboy on a horse on a cattle ranch. The machinery that does the back-breaking work of men makes work for a small army of specialists and machinists in the huge shop on the outskirts of Bakersfield that not only keeps equipment rolling but actually modifies and manufactures much machinery.

Take, for example, all the metal housing for the company's 250 pumps. Most San Joaquin Valley

farmers leave their pumps out in the sun and rain. K.C.L. covers each pump with a metal roof that rests on a heavy metal screen encircling the installation. A K.C.L. farm can be identified by these pump houses. A well and a pump, with its 200 horsepower motor, is a \$20,000 to \$30,000 investment, so Mr. Melcher believes in protecting the investment from the elements. It takes about \$2,400 worth of power per year to produce enough water to make the equivalent of 36 inches of rain on a quarter-section of farm land in this area where the winter rainfall seldom exceeds five inches, not enough to make a crop.

The well and the pump are only part of what K.C.L. provides a farmer-partner when it sets him up in business. The land leveling to smooth out humps and ridges, so that water will flow smoothly to every cow on the farm, has cost \$100 to \$150 per acre. Before the huge land levelers go to work, surveyors and engineers stake the land to make sure the slope is just right. They do this again between crops, for "toughing up the levels," some of them thrown off by earthquakes in 1952.

Before delivering a farm to a partner, Mr. Melcher's men usually plant it to alfalfa for two to three years. This serves a double purpose. Though K.C.L. prefers to have cattle eat their own hay by eating it in the field, the company plays safe by keeping 50,000 tons, a year's supply, "in the bank" to guard against drought years. These long stacks of baled hay, protected by corrugated metal roofing, are one of the sights of the K.C.L. ranches. The feed lot mill also uses enormous quantities of hay in the feed mix. But more important, K.C.L. is interested in soil building for the future. The alfalfa puts humus and nitrogen into the sandy desert soil and nails it down after the pulverizing administered by the leveling machines and the disc plows.

"Our basic job is to build up and maintain the fertility of the soil, so that it can be farmed centuries from now," explains Mr. Melcher. "We will pass up revenue, if necessary, to build up our soil by proper rotation."

The company's partners go along with the idea, not so much because they are required to do so under the terms of their contracts, but because they, too, are interested in future crops. All leases are on a five-year basis, and are renewable. Every year Mark Raney, K.C.L.'s general agricultural superintendent, or one of his assistants, sits down with every lessee to work out the rotation of crops—cotton, sugar beets, potatoes, corn, melons, alfalfa—for each section of each farm. Since K.C.L. may take its share of the crop in kind—bales of cotton, sacks of spuds, or tons of hay—the company has as much at stake as the grower. Actually, in most instances the farmer sells the crop and pays K.C.L.'s share in cash, though payment is often in hay, for which the cattle department is always ravenously hungry.

In the Kern delta area, where K.C.L. first pioneered lessee-farming three decades ago, the 11 original tenant farmers meet every Wednesday morning at Frank Jeppi's cotton gin for a go-around with the company spokesman. Distribution of water, pest control, or any other problem or issue is threshed out in a one-hour session, town meeting style. Farther north and west the sessions are man-to-man on the ground, with the crops stretching off to the horizon. K.C.L. refers to its partners as "small farmers," but some of them now farm up to 4,000 acres and harvest crops worth upwards of \$1,000,000.

The real "small farmer" is a partner with 100 to 400 acres, whose crop may bring a \$20,000 to \$50,000 har-

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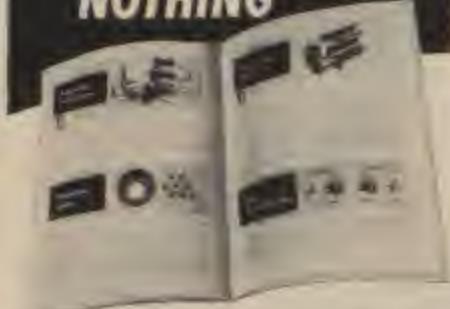
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vest, a farmer like Menno Siemens, for instance, who started with 80 acres five years ago and who now has 400 acres. In 1952 Mr. Siemens averaged two bales per acre in cotton and harvested a \$40,000 crop. K.C.L.'s share was one fourth.

Down the road a piece, Edgar Tiner and his wife, Alfa, have pulled themselves up by hard work since the war. During the war, Mr. Tiner was in the Army, stationed at Minter Field, just north of Bakersfield. He had 20 acres under lease when he put on his uniform. Alfa quit her job at a nearby store to do the irrigating. Mr. Tiner spent his week ends helping out. They hit the market just right with a couple of bumper potato crops. After the war, the Tiners increased their lease to 200 acres.

Most of K.C.L.'s partners don't live on the farms they operate, either under lease or their own ownership. They are businessmen with incomes running into five and sometimes six figures. Their families prefer to live in towns like Shafter, whose newer streets are lined with \$30,000 to

farms 1,500 acres planted to cotton, sugar beets, and barley. Mr. Banducci has \$250,000 invested in equipment, including a plane for spraying defoliant on cotton, and 11 cotton picking machines.

The equipment pays off in a big round sum—\$225,000 worth of cotton, \$150,000 worth of sugar beets, \$25,000 worth of barley annually, from the acreage Mr. Banducci leases on shares from the company.

K.C.L.'s farmer-partners have another advantage which all of them appreciate. Since the company takes its rental in kind, it wants the biggest quality crop that scientific farming can produce. Mr. Melcher's staff includes soil experts, agronomists, engineers, irrigationists, men who know how to fight pests. No one farmer could afford to employ a team like this.

The yield of the 60,000 acres the company has turned over to individuals to farm tells the story. Last year 35,000 acres of cotton averaged two bales to the acre, a crop worth \$10,500,000. The 6,000 acres in potatoes averaged 300 sacks per acre, a



John T. Pigott, former president, is now chairman of the board



The new president of the land company is George Montgomery

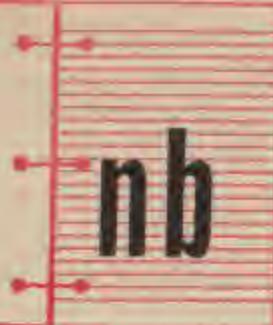
\$50,000 homes surrounded by broad lawns and gay gardens. Many lessees operate scattered farms, so there is no particular advantage in living on any one lease.

Down in the Kern delta area, where the leases are larger, the company's partnerships are more firmly rooted to the soil, the earth they farm but do not own. Once this was an old lake bottom; now the lake, which shapes up only during the winter runoff, is shut off by a long dike. Fred Banducci is a good example of "tenant farming" in this area. He started with 200 acres, now

harvest of 1,800,000 sacks of spuds.

It was big farming on a big scale, done by small farmers. It paid off in such prodigious crops because small farmers can produce more efficiently than can any company-farmed operation. Recognizing this truth and adapting its plans to small farming practices is what has made Kern County Land Company's vast holdings probably the most fabulous farming operation on earth. END

*As this issue of NATION'S BUSINESS was going on the press, Mr. Melcher died suddenly from a heart attack.*



# nb notebook

## An unrewarding pastime

THE THEFT of \$160,000 from the Bureau of Engraving and Printing set Herbert Bratter, long-time Treasury reporter, to digging in his files for historical precedent. His search revealed that trying to rob the Treasury is an old and unrewarding pastime.

Probably the most ambitious effort was in 1862 when thieves spirited \$200,000 into a box of waste paper which they carried as far as the door. For undetermined reasons, they abandoned it there.

Sophie Holmes, who worked as a charwoman, discovered the money and reported to authorities. The thieves were never found but Sophia was rewarded with a lifetime job as Treasury janitress.

In 1865, a Treasury employe got as far as New York with \$200,000 in bonds before police caught up with him.

In 1870, two thieves joined a party of visitors whom a Treasury official was showing through the building. One managed to slip a bundle of 200 \$10 bills under the overcoat he carried on his arm.

One of the culprits was caught in New York but the other fled to Europe with the money—additional evidence that \$2,000 went further in those days.

In 1872 the Treasury reported the "dreadful discovery" that two highly trusted employes had stolen \$62,000.

Three years later \$47,000 in \$500 bills vanished from the Treasury express room. The theft was solved when a Washington man became too casual with \$500 bills at the Saratoga horse races.

In 1877 a Chicago bank which had sent \$11,900 in worn notes to Washington for exchange received a bundle of blank paper in exchange. A Treasury employe spent a year and a half in jail for making that switch.

In New Deal days, three women in the redemption room took advantage of the fact that bundles of worn notes which banks sent in for redemption sometimes contained more or less than the amount reported. When it was more, they kept

the extras. The fact that they reported only shortages in the bundles soon aroused suspicion.

Probably apocryphal is the story old-timers like to tell about the man who used a fishing pole from the Cash Room balcony to "catch" a bundle of bank notes.

## Chicken-in-the-bank

CHICKEN-in-the-rough and also chicken-in-the-basket have become popular gustatory adventures. Now, in Goshen, Ind., chicken-in-the-bank takes precedence over both.

The reason is that twice a week the First National Bank opens its community room for a poultry auction.

This entails less fuss and feathers than it implies. Actually the chickens do not appear.

Instead poultry raisers leave their lists of consignments with the county agricultural agent the day preceding the auction.

Each grower's name, address, number and breed of birds is recorded and given a lot number.

Buyers inspect the birds before the auction and list the lots on which they wish to bid.

## Locally built dam

THE 10,000 residents of Franklin County, Idaho, have a new dam built with local material and local labor and financed by individual donations ranging from \$1 to \$200. Total cost: \$39,745.

As a result, a muddy little river that meandered through the county no longer carries top soil away to the Great Bear River and finally into Great Salt Lake.

As a further result, federal taxpayers have been saved \$500,000—which is what federal experts after a \$30,000 survey said it would cost to build the federal dam they recommended.

## Investing idle funds

TAXPAYERS in several cities are benefiting from a new technique under which the municipality invests idle funds in U. S. securities and uses



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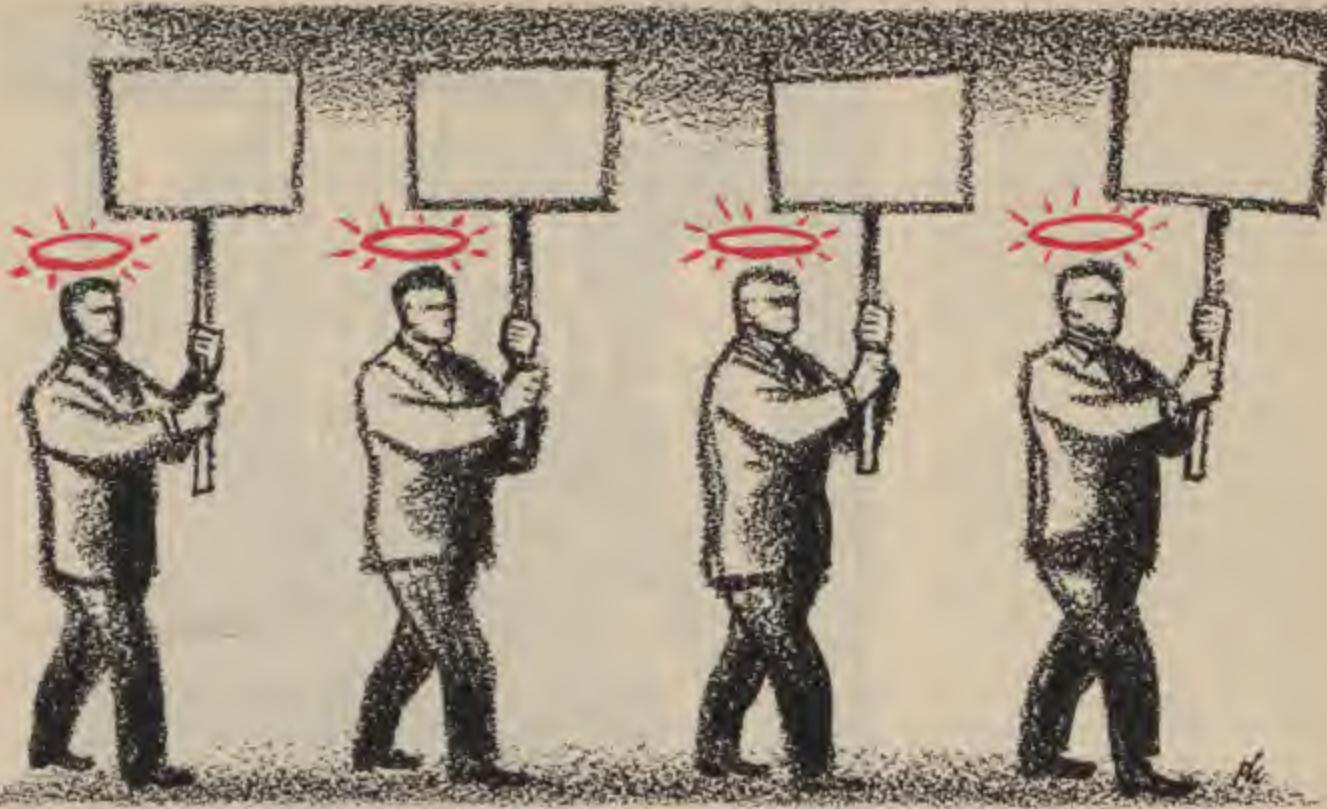
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## *Secondary Boycotts:* **THREAT TO EVERYBODY**

AMONG labor's more spectacular triumphs is the campaign which has invested the picket line with sanctity. So sacred has this barricade become that no one, whatever his need, crosses one without a feeling that he is committing an indecency in public.

Somehow the unions have made stick a general impression that the picket line is always good while whatever lies beyond is an anathema.

The power to set up a picket line has thus become the power to destroy—or at least the power to attempt to destroy. Similar power rests in no other American institution.

Our courts can deny a man the right to engage in business only after a trial at which he can tell the judge and the public his side of the story. Even then, because we know judges are mortal, we are liberal with the right of appeal.

Neither trial nor appeal is open to him against whom the union hurls the thunderbolt of the picket line. Like the Spanish Inquisition, the union sits in judgment and decrees punishment. Unlike the Inquisition it does not reserve its maledictions for those whom it regards as evil.

Through a machination known as the secondary boycott it does not hesitate to punish innocent bystanders along with those with whom it has a dispute if such punishment seems necessary to union ends.

In the face of such caprice, nobody is safe.

The man or business which has dealt fairly with employees may be picketed as rigidly as the most rabid labor baiter if the union feels that such treatment of a friend may give it the upper hand in dealing with a foe.

This is scarcely the type of Jovian objectivity to which such absolute power should be entrusted.

To understand how this could happen to you, it is necessary to understand the methods and purposes of the secondary boycott.

Briefly it is an effort to prevent a concern not engaged in a labor dispute from doing business with a firm which is. By picketing the customers of a struck firm, for instance, the union hopes to drive them to other sources of supply thus starving the struck firm into submission.

Strictly speaking, this is illegal.

But interpretations by the courts and the National Labor Relations Board have left loopholes through which the law's obvious intention may be evaded.

So the unions are able to continue to force bystanders to help unions gain their ends—or to take the consequences. They will undoubtedly continue to do this unless those who believe in justice, fair play, and the right of every person to a fair trial before he is punished either by society or union labor unite to bring changes that will close the loopholes in the Taft-Hartley Act.

# You can cover the Southeast from this Richmond location

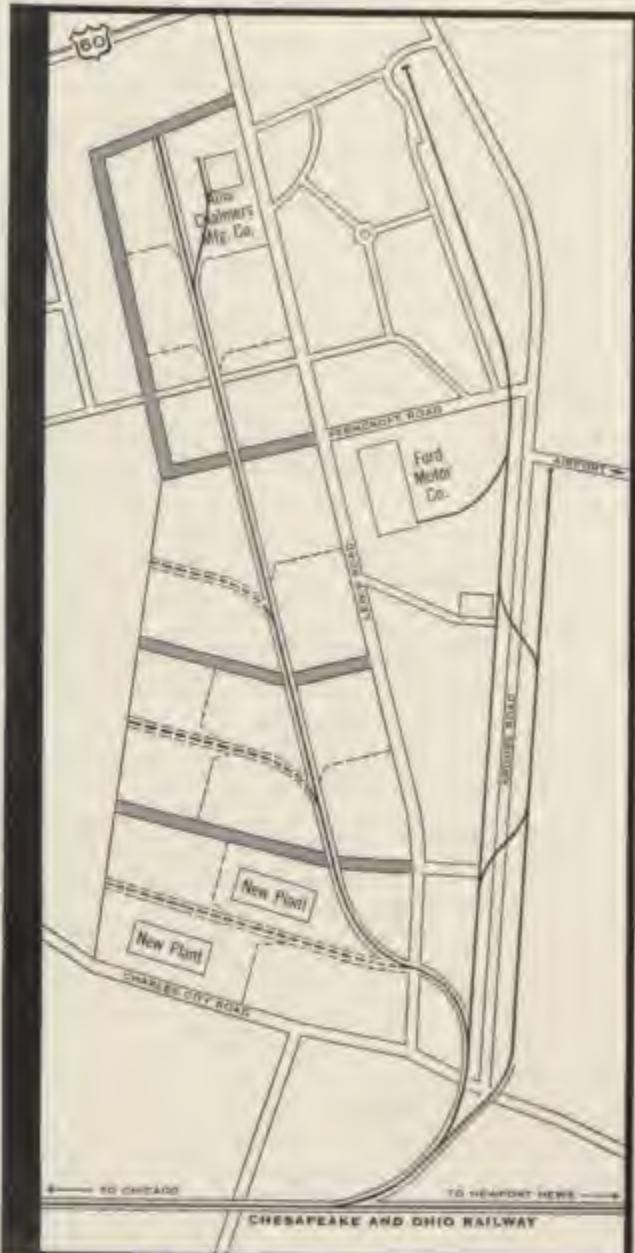
Look at a railway map and you'll see why Richmond, Va., has become such an important distributing point for the Southeast. It is on the main north-south route, and a network of lines fans out to cover the South.

These particular locations are in the new Airport Industrial District, adjoining Byrd Field. The area is on the main line of the Chesapeake and Ohio, 70 miles from the convenient and economical port of Newport News, and with fast, direct freight and passenger service to the Midwest. By U.S. 60 it is only five miles from downtown Richmond.

The total area now under development covers about 200 acres.

Ford Motor and Allis-Chalmers have chosen it as their distributing point for the territory and two additional plants are now under construction. Spurs are already built to serve Ford and Allis-Chalmers and the other indicated trackage will be laid as soon as it is needed. The area is level and well drained and all utilities are available.

For a Pin-Point Survey giving full information write to: Chesapeake and Ohio Railway, Industrial Development Department, Cleveland 1, Ohio, Detroit, Mich., or Huntington, W. Va.



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